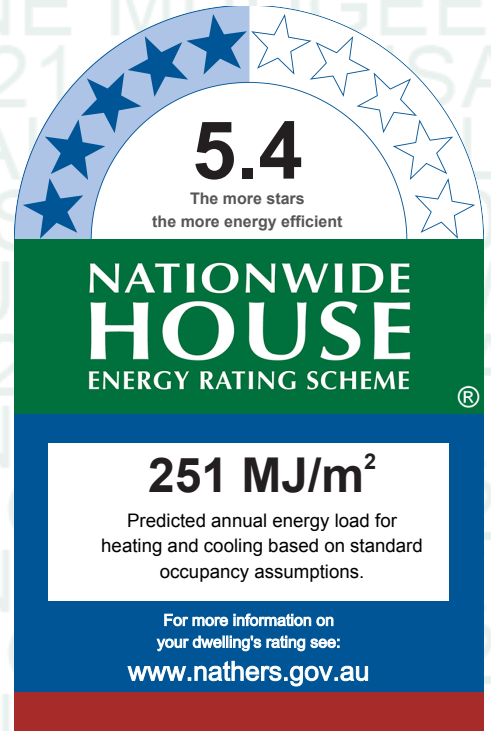


Nationwide House Energy Rating Scheme

NatHERS Certificate No. C5XBNSA4NV

Generated on 20 Aug 2021 using FirstRate5: 5.3.1a (3.21)



Property

Address 2, SALEYARDS LANE, MUDGEE, NSW, 2850
Lot/DP 16/1266486
NCC Class* Class 1a
Type New Home

Plans

Main plan 10914.2
Prepared by HIBBARDS PTY LTD

Construction and environment

Assessed floor area (m²)*		Exposure type
Conditioned*	118.4	suburban
Unconditioned*	46.2	NatHERS climate zone
Total	164.6	65, MUDGEE
Garage	34.6	

Thermal performance

Heating	Cooling
244.5	6.5
MJ/m²	MJ/m²

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 <https://www.fr5.com.au/QRCodeLanding?PublicId=C5XBNSA4NV> When using either link, ensure you are visiting www.FR5.com.au.



Accredited assessor

Name ROSS GRIMS
Business name Stellar Thermal Assessments
Email info@stellartermal.com
Phone 0423223099
Accreditation No. HERA10004
Assessor Accrediting Organisation HERA
Declaration of interest Declared, refer to "Additional Notes" on page 2

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

R1.5 INSULATION BATTS TO INTERNAL WALLS JOINING TO GARAGE

R3.5 INSULATION BATTS TO ENTIRE CEILING INCLUDING GARAGE.

NO ANTICON BLANKET REQUIRED

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	Aluminium B SG Clear	6.7	0.7	0.66	0.74

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
SSW-001-07 A	100 SERIES - ALUMINIUM SLIDING WINDOW SG 4Clr	6.16	0.74	0.7	0.78
SSW-012-11 A	100 SERIES - ALUMINIUM SLIDING DOOR SG 5Clr	6.07	0.74	0.7	0.78

Window and glazed door *Schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
----------	-----------	------------	-------------	------------	-------------	-----------	-------------	------------------------

* Refer to glossary.

BED 4	ALM-002-01 A	W2	1800	600	double_hung	45.0	SE	No
BED 4	ALM-002-01 A	W2A	1800	590	double_hung	45.0	SE	No
BED 4	ALM-002-01 A	W1	1800	600	double_hung	45.0	SE	No
MEDIA	SSW-001-07 A	W3	1200	2400	sliding	60.0	NE	No
KITCHEN/ FAMILY	SSW-001-07 A	W4	1200	2400	sliding	60.0	NE	No
KITCHEN/ FAMILY	SSW-012-11 A	D3	2100	2400	sliding	45.0	NW	No
GARAGE	SSW-001-07 A	W10	300	1800	fixed	0.0	SW	No
BED 3	SSW-001-07 A	W9	1500	1500	sliding	45.0	SW	No
WC	SSW-001-07 A	W8	900	600	sliding	45.0	SW	No
BATH	SSW-001-07 A	W7	900	1200	sliding	45.0	SW	No
LAUNDRY	SSW-012-11 A	D5	2100	1500	sliding	45.0	SW	No
BED 2	SSW-001-07 A	W6	1500	1500	sliding	45.0	SW	No
BED 1	SSW-012-11 A	D4	2100	1500	sliding	45.0	NE	No
ENSUITE	SSW-001-07 A	W5	900	600	sliding	45.0	NW	No

Roof window type and performance value

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 %	Area (m ²)	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)	Orient-ation	Outdoor shade	Skylight shaft reflectance
No Data Available							

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
ENTRY	2040	1200	100.0	SE

GARAGE	2100	4800	100.0	SE
--------	------	------	-------	----

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
1	EIB - BRICK VENEER + ANTIGLARE FOIL	0.3	Light		Yes
2	FR5 - Double Brick	0.3	Light		No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
BED 4	1	2440	3585	NE	459	No
BED 4	1	2440	1002	SW	1800	Yes
BED 4	1	2440	2987	SE	459	Yes
ENTRY	1	2440	1640	SE	1900	Yes
MEDIA	1	2440	3788	NE	463	No
KITCHEN/ FAMILY	1	2440	6228	NE	478	No
KITCHEN/ FAMILY	1	2440	3224	NW	4414	Yes
GARAGE	2	2526	5876	SE	525	Yes
GARAGE	1	2526	5880	SW	476	No
BED 3	1	2440	2973	SW	473	No
WC	1	2440	435	SE	0	No
WC	1	2440	893	SW	85	No
BATH	1	2400	466	NW	0	Yes
BATH	1	2440	1887	SW	44	No
LAUNDRY	1	2440	1678	SW	503	No
BED 2	1	2440	3649	NW	450	Yes
BED 2	1	2440	2983	SW	494	No
BED 1	1	2440	2016	NE	3772	Yes
ENSUITE	1	2440	456	NE	0	Yes
ENSUITE	1	2440	2067	NW	-51	No
ENSUITE	1	2440	460	SW	0	Yes
WIR	1	2440	1878	NE	3769	Yes
WIR	1	2440	1455	NW	438	Yes

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	136.1	
2	FR5 - Internal Plasterboard Stud Wall	28.4	Glass fibre batt: R1.5 (R1.5)

Floor type

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

* Refer to glossary.

BED 4	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.7	Enclosed	R0.0	Carpet
ENTRY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	7.8	Enclosed	R0.0	Tiles
MEDIA	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	13.3	Enclosed	R0.0	Carpet
KITCHEN/ FAMILY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	37.2	Enclosed	R0.0	Tiles
PANTRY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	2	Enclosed	R0.0	Tiles
GARAGE	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	34.6	Enclosed	R0.0	none
BED 3	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.9	Enclosed	R0.0	Carpet
WET AREA HALL	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	5.7	Enclosed	R0.0	Tiles
WC	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.4	Enclosed	R0.0	Tiles
BATH	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	5.8	Enclosed	R0.0	Tiles
LAUNDRY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4.4	Enclosed	R0.0	Tiles
BED 2	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	10.9	Enclosed	R0.0	Carpet
BED 1	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	12.2	Enclosed	R0.0	Carpet
ENSUITE	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4.8	Enclosed	R0.0	Tiles
WIR	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	2.7	Enclosed	R0.0	Carpet

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
BED 4	Plasterboard	R3.5	No
ENTRY	Plasterboard	R3.5	No
MEDIA	Plasterboard	R3.5	No
KITCHEN/ FAMILY	Plasterboard	R3.5	No
PANTRY	Plasterboard	R3.5	No
GARAGE	Plasterboard	R3.5	No
BED 3	Plasterboard	R3.5	No
WET AREA HALL	Plasterboard	R3.5	No
WC	Plasterboard	R3.5	No
BATH	Plasterboard	R3.5	No
LAUNDRY	Plasterboard	R3.5	No
BED 2	Plasterboard	R3.5	No
BED 1	Plasterboard	R3.5	No
ENSUITE	Plasterboard	R3.5	No
WIR	Plasterboard	R3.5	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
BED 4	1	Downlights	80	Sealed
ENTRY	1	Downlights	80	Sealed
MEDIA	1	Downlights	80	Sealed
KITCHEN/ FAMILY	4	Downlights	80	Sealed
KITCHEN/ FAMILY	1	Exhaust Fans	200	Sealed

* Refer to glossary.

PANTRY	1	Downlights	80	Sealed
BED 3	1	Downlights	80	Sealed
WET AREA HALL	1	Downlights	80	Sealed
WC	1	Downlights	80	Sealed
BATH	1	Exhaust Fans	200	Sealed
BATH	1	Downlights	80	Sealed
LAUNDRY	1	Downlights	80	Sealed
BED 2	1	Downlights	80	Sealed
BED 1	1	Downlights	80	Sealed
ENSUITE	1	Exhaust Fans	200	Sealed
ENSUITE	1	Downlights	80	Sealed
WIR	1	Downlights	80	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Cont:Attic-Continuous	0.0	0.7	Dark

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

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.

* Refer to glossary.

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).