

Nationwide House Energy Rating Scheme

NatHERS Certificate No. 0005764725-03

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Property

Address 42 Surf Road , North Curl Curl , NSW ,
2099
Lot/DP 33/5659
NCC Class* 1A
Type New Dwelling

Plans

Main Plan Plans, Elevations Section
Prepared by Jeff Karskens Design

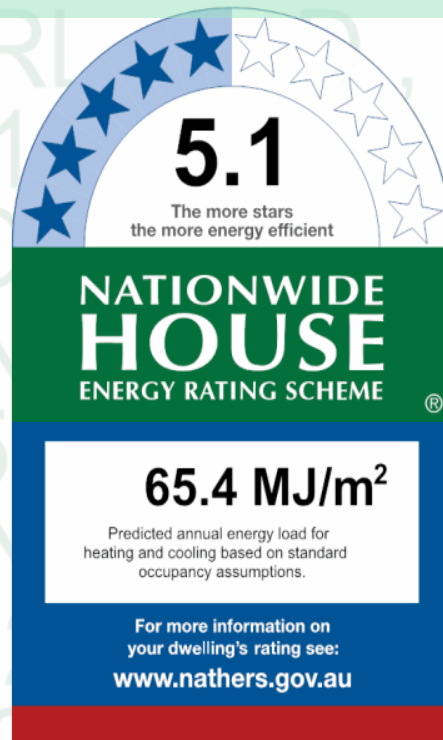
Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 211.0	Suburban
Unconditioned* 99.0	NatHERS climate zone
Total 309.0	56
Garage 0.0	



Accredited assessor

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Accreditation No. 20884
Assessor Accrediting Organisation
ABSA
Declaration of interest None



Thermal performance

Heating	Cooling
41.7	23.6
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 www.hstar.com.au/QR/Generate?p=oOTGGcolv. When using either link, ensure you are visiting www.hstar.com.au



National Construction Code (NCC) requirements

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

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

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

Certificate check

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

Genuine certificate

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

Ceiling penetrations*

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

Windows

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

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.57	0.57
ALM-002-03 A	ALM-002-03 A Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.58	0.58
ALM-001-03 A	ALM-001-03 A Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.49	0.49

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
bathroom	ALM-001-01 A	n/a	800	2400	n/a	20	S	No
workshop	ALM-001-01 A	n/a	800	2400	n/a	30	S	No
workshop	ALM-001-01 A	n/a	800	2400	n/a	30	N	No
kitchen/living	ALM-002-03 A	n/a	2400	5610	n/a	80	W	No
kitchen/living	ALM-001-03 A	n/a	1530	800	n/a	10	N	No
kitchen/living	ALM-002-03 A	n/a	1350	850	n/a	95	E	No
kitchen/living	ALM-001-03 A	n/a	1290	850	n/a	10	S	No
kitchen/living	ALM-001-03 A	n/a	1290	850	n/a	10	S	No
bed 1	ALM-002-03 A	n/a	2400	3600	n/a	45	E	No
hall	ALM-002-03 A	n/a	1350	850	n/a	10	E	No
bed 2	ALM-001-03 A	n/a	600	1570	n/a	10	S	No
bathroom	ALM-001-01 A	n/a	1350	850	n/a	90	N	No
bed 4	ALM-002-03 A	n/a	1200	2410	n/a	66	W	No
bed 3	ALM-002-03 A	n/a	1200	2410	n/a	66	W	No
store hall	ALM-001-01 A	n/a	800	800	n/a	30	S	No
living	ALM-002-03 A	n/a	1350	1540	n/a	00	N	Yes
living	ALM-002-03 A	n/a	2400	4390	n/a	50	E	No
ensuite	ALM-001-03 A	n/a	1350	850	n/a	10	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								

Skylight type and performance

Skylight ID Skylight description

GEN-04-009a	Double-glazed opal, Timber and Aluminium Frame
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Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
bathroom	GEN-04-009a	n/a	50	1.10	N	None	No	0.50

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
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No Data Available

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Concrete block, lined	0.50	Medium	Anti-glare foil with bulk no gap R2	No
EW-2	Concrete block, lined	0.30	Light	Anti-glare foil with bulk no gap R2	No
EW-3	Concrete block, lined	0.50	Medium	Anti-glare foil with bulk no gap R2	No
EW-4	Weatherboard Cavity Panel Direct Fix	0.30	Light	Anti-glare foil with bulk no gap R2	No
EW-5	Weatherboard Cavity Panel Direct Fix	0.85	Dark	Anti-glare foil with bulk no gap R2	No
EW-6	Weatherboard Cavity Panel Direct Fix	0.85	Dark	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-7	Weatherboard Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
bathroom	EW-1	1000	800	E	0	YES
bathroom	EW-1	1400	800	E	11500	YES
bathroom	EW-2	2400	5355	S	0	NO
workshop	EW-3	1400	2745	E	16900	NO
workshop	EW-2	1000	5955	S	0	NO
workshop	EW-2	1400	5955	S	0	NO
workshop	EW-2	1000	6800	W	0	NO
workshop	EW-2	1400	6800	W	0	NO
workshop	EW-2	2400	6655	N	0	NO
laundry	EW-2	2400	2355	N	0	NO
laundry	EW-1	2400	2855	E	9000	NO

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
kitchen/living	EW-4	1000	6800	W	0	NO
kitchen/living	EW-4	1700	6800	W	2400	NO
kitchen/living	EW-4	1000	15800	N	0	NO
kitchen/living	EW-4	1700	15800	N	0	NO
kitchen/living	EW-4	1000	1300	E	0	YES
kitchen/living	EW-4	1700	1300	E	0	YES
kitchen/living	EW-5	1700	3100	S	5000	NO
kitchen/living	EW-4	1000	12695	S	0	NO
kitchen/living	EW-4	1700	12695	S	0	NO
bed 1	EW-5	2700	4195	N	500	YES
bed 1	EW-5	2700	5000	E	3200	NO
bed 1	EW-5	2700	4195	S	500	YES
hall	EW-5	2700	4995	N	500	NO
hall	EW-5	2700	1300	E	600	YES
bed 2	EW-5	2700	3690	S	500	NO
bathroom	EW-5	2700	400	W	4700	YES
bathroom	EW-5	2700	4195	N	500	NO
bed 4	EW-6	2700	3095	W	900	NO
bed 4	EW-5	2700	4395	N	600	YES
bed 3	EW-5	2700	4395	S	500	NO
bed 3	EW-5	2700	2995	W	900	NO
utility/store	EW-1	2400	2910	N	0	NO
stair	EW-2	1000	1710	N	0	NO
stair	EW-2	1400	1710	N	0	NO
store hall	EW-1	2400	3055	E	9000	NO
store hall	EW-1	2400	2445	S	800	YES
living	EW-4	1000	2895	N	0	YES
living	EW-4	1700	2895	N	0	YES
living	EW-4	2700	5500	E	2400	NO
living	EW-7	1000	5995	S	0	NO
living	EW-7	1700	5995	S	0	NO
ensuite	EW-5	2700	2790	S	500	NO
dressing	EW-5	2700	200	E	7400	YES
dressing	EW-5	2700	2695	S	500	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Concrete Block		60.00	No insulation

Wall ID	Wall type	Area (m)	Bulk insulation
IW-2 - Single Skin Brick		5.00	No insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		133.00	No insulation

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
bathroom	Concrete Slab on Ground 100mm	14.10	None	No Insulation	Ceramic Tiles 8mm
workshop	Concrete Slab on Ground 100mm	43.30	None	No Insulation	Ceramic Tiles 8mm
laundry	Concrete Slab on Ground 100mm	6.70	None	No Insulation	Ceramic Tiles 8mm
kitchen/living/bathroom	Concrete Above Plasterboard 190mm	14.50		No Insulation	Ceramic Tiles 8mm
kitchen/living/workshop	Concrete Above Plasterboard 190mm	31.30		No Insulation	Ceramic Tiles 8mm
kitchen/living/laundry	Concrete Above Plasterboard 190mm	6.90		No Insulation	Ceramic Tiles 8mm
kitchen/living/utility/store	Concrete Above Plasterboard 190mm	8.70		No Insulation	Ceramic Tiles 8mm
kitchen/living/stair	Concrete Above Plasterboard 190mm	5.20		No Insulation	Ceramic Tiles 8mm
kitchen/living/store hall	Concrete Above Plasterboard 190mm	13.30		No Insulation	Ceramic Tiles 8mm
kitchen/living	Suspended Concrete Slab 190mm	11.60	Open	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Ceramic Tiles 8mm
bed 1/kitchen/living	Timber Above Plasterboard 100mm	8.30		No Insulation	Carpet 10mm
bed 1/living	Timber Above Plasterboard 100mm	13.80		No Insulation	Carpet 10mm
hall/kitchen/living	Timber Above Plasterboard 100mm	21.70		No Insulation	Carpet 10mm
bed 2/kitchen/living	Timber Above Plasterboard 100mm	10.60		No Insulation	Carpet 10mm
bathroom/kitchen/living	Timber Above Plasterboard 150mm	8.50		No Insulation	Ceramic Tiles 8mm
bed 4/kitchen/living	Timber Above Plasterboard 100mm	6.40		No Insulation	Carpet 10mm
bed 4	Suspended Timber Floor 100mm	6.00	Open	Bulk Insulation, Gap to Floor R2	Carpet 10mm
bed 3/kitchen/living	Timber Above Plasterboard 100mm	6.20		No Insulation	Carpet 10mm
bed 3	Suspended Timber Floor 100mm	5.80	Open	Bulk Insulation, Gap to Floor R2	Carpet 10mm
utility/store	Concrete Slab on Ground 100mm	8.30	None	No Insulation	Ceramic Tiles 8mm
stair	Concrete Slab on Ground 19mm	4.90	None	No Insulation	Ceramic Tiles 8mm
store hall	Concrete Slab on Ground 19mm	12.70	None	No Insulation	Ceramic Tiles 8mm
living	Suspended Concrete Slab 190mm	31.10	Open	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Ceramic Tiles 8mm
ensuite/kitchen/living	Timber Above Plasterboard 150mm	8.80		No Insulation	Ceramic Tiles 8mm
dressing/kitchen/living	Timber Above Plasterboard 19mm	7.90		No Insulation	Carpet 10mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
bathroom	Concrete Above Plasterboard	No Insulation	No
workshop	Concrete, Plasterboard	No insulation	No
workshop	Concrete Above Plasterboard	No Insulation	No
laundry	Concrete Above Plasterboard	No Insulation	No
kitchen/living	Plasterboard	Bulk Insulation R6	No
kitchen/living	Timber Above Plasterboard	No Insulation	No
bed 1	Plasterboard	Bulk Insulation R6	No
hall	Plasterboard	Bulk Insulation R6	No
bed 2	Plasterboard	Bulk Insulation R6	No
bathroom	Plasterboard	Bulk Insulation R6	No
bed 4	Plasterboard	Bulk Insulation R6	No
bed 3	Plasterboard	Bulk Insulation R6	No
utility/store	Concrete Above Plasterboard	No Insulation	No
stair	Concrete Above Plasterboard	No Insulation	No
store hall	Concrete Above Plasterboard	No Insulation	No
living	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
living	Timber Above Plasterboard	No Insulation	No
ensuite	Plasterboard	Bulk Insulation R6	No
dressing	Plasterboard	Bulk Insulation R6	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm ²)	Sealed/unsealed
bathroom	3	Downlights - LED	150	Sealed
bathroom	1	Exhaust Fans	300	Sealed
workshop	6	Downlights - LED	150	Sealed
laundry	2	Downlights - LED	150	Sealed
laundry	1	Exhaust Fans	300	Sealed
kitchen/living	18	Downlights - LED	150	Sealed
kitchen/living	1	Exhaust Fans	300	Sealed
bed 1	6	Downlights - LED	150	Sealed
hall	5	Downlights - LED	150	Sealed
bed 2	2	Downlights - LED	150	Sealed
bathroom	2	Downlights - LED	150	Sealed
bathroom	1	Exhaust Fans	300	Sealed
bed 4	2	Downlights - LED	150	Sealed
bed 3	2	Downlights - LED	150	Sealed

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
store hall	5	Downlights - LED	150	Sealed
ensuite	2	Downlights - Halogen	450	Sealed
ensuite	1	Exhaust Fans	300	Sealed
dressing	2	Downlights - LED	150	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Waterproofing Membrane	No Insulation, Only an Air Gap	0.85	Dark
Corrugated Iron	Foil, No Gap, Reflective Side Down, Anti-glare Up	0.85	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

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 10m 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).