Nationwide House Energy Rating Scheme[®] Class 2 Summary NatHERS[®] Certificate No. 0008991880

Generated on 10 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NatHERS Climate Zone 17-21 Wardell Road, Alstonville, NSW, 2477 Lot 6-8 DP 35468 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting Organisation

Design Matters National

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=FtDycBLdH . When using either link, ensure you are visiting hstar.com.au



National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating



NATIONWIDE HOUSE ENERGY RATING SCHEME

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The rating above is the average of all dwellings in this summary.

> For more information on your dwelling's rating see: www.nathers.gov.au

NCC heating and cooling maximum loads (MJ/m²/p.a.)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled block average	1.8	31.5
Maximum block limit	N/A	N/A

Whole of Home performance rating

No Whole of Home performance rating conducted for this summary certificate or not completed for all dwellings

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) [MJ/m ² /p.a.]	Cooling load (load limit) [MJ/m²/p.a.]	Total load [MJ/m ² /p.a.]	Star Rating	Whole of Home Rating
<u>0008986788-01</u>	1	1.1 (N/A)	18.2 (N/A)	19.3	10	0
0008991812	2	0.2 (N/A)	22.9 (N/A)	23.0	9.5	0

Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

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Summary of all dwellings (continued)

Certificate number and link	Unit Number	Heating load (load limit) [MJ/m ² /p.a.]	Cooling load (load limit) [MJ/m ² /p.a.]	Total load [MJ/m²/p.a.]	Star Rating	Whole of Home Rating
0008991838	3	0.13 (N/A)	18.67 (N/A)	18.80	10	0
0008991853	4	9.55 (N/A)	40.05 (N/A)	49.60	6.3	0
0008991861	5	2.57 (N/A)	39.62 (N/A)	42.19	7.2	0
0008991762	6	2.32 (N/A)	51.72 (N/A)	54.04	5.9	0
0008991770	7	0.00 (N/A)	19.01 (N/A)	19.01	10	0
0008991796	8	0.25 (N/A)	20.10 (N/A)	20.35	9.9	0
0008991820	9	3.09 (N/A)	51.99 (N/A)	55.08	5.8	0
0008991846	10	2.33 (N/A)	44.71 (N/A)	47.04	6.6	0
0008991754	11	1.10 (N/A)	27.06 (N/A)	28.16	8.9	0
0008991788	12	0.35 (N/A)	27.23 (N/A)	27.57	8.9	0
0008991804	13	0.51 (N/A)	27.75 (N/A)	28.25	8.8	0

Explanatory notes

About this ratings

The thermal performance star rating in this Certificate is the average rating of all NCC Class 2 dwellings in an apartment block. Individual unit ratings are listed in the 'Summary of all dwellings' section of this Certificate.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the energy loads and societal cost. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads.

For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

For high quality NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Licensed assessors in the Australian Capital Territory (ACT) can produce assessments for regulatory purposes only, using endorsed software, as listed on the ACT licensing register.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in certificates is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy use, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance,

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indoor air temperature and local climate.

Not all assumptions 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.

Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au Generated on 10 Oct 2023 using BERS Pro v5.1.5 (3.22) for 17-21 Wardell Road , Alstonville , NSW , 2477

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008986788-01

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class' Floor/all Floors Type

Plans

Main plan Prepared by

Unit 1, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]* Conditioned* 45.6 Unconditioned* 7.1 52.7 Total Garage 0.0

Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

Dean Gorman Name **Business name** Greenview Consulting Pty Ltd Email dean@greenview.net.au Phone 8544 1683 Accreditation No. DMN/13/1645 Assessor Accrediting Organisation **Design Matters National** Declaration completed: no conflicts

Declaration of interest

NCC Requirements

NCC provisions Strate/Territory variation

Volume One Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars

the more energy efficient

NATIONWIDE

19.3 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Nodelled	1.1	18.2
oad limits	N/A	N/A

Features determining load limits

L

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=cuRErwqVB When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 1, 17-21 Wardell Road , Alstonville , NSW , 2477

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
 - ICC Climate Zone 1 of
 - Yes No

NA – Not Applicable

Outdoor Living Area:

- Yes No
- NA Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



10 Star Rating as of 06 Oct 2023

Certificate check	Approval Stage		Construction Stage		HOUSE
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder	Consent Surveyo	Occupa
Genuine certificate check		л	Т		
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



	Аррго	Approval Stage		Construction Stage		
Certificate check	ecked	hority/	hecked	uthority hecked	/Other	
Continued	Assessor ch	Consent Auti Surveyor che	Builder chec	Consent Aut Surveyor che	Occupancy/C	
Additional NCC requirements for thermal perfo	ormance (not included in	the NatHI	ERS asse	essment)	n	
Thermal bridging						

Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					

Does the hot water system meet the additional requirements specified in the NCC?			
Provisional values* check			
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?			

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m ²]
Bedroom 1	Bedroom	12.51
Entry	Daytime	6.59
Bath/Ldry	Unconditioned	7.06
Kitchen/Living	Kitchen/Living	26.49

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61

Custom windows*

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

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-03 A	n/a	1800	1810	Awning	30	E	No
Bedroom 1	ALM-002-03 A	n/a	600	1810	Awning	00	S	No
Entry	ALM-001-03 A	n/a	2400	1000	Awning	90	S	No
Bath/Ldry	ALM-001-01 A	n/a	800	850	Awning	90	S	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1450	Awning	45	E	No
Kitchen/Living	ALM-001-03 A	n/a	2400	1000	Awning	90	E	No

Roof window* type and performance value

Default roof windows*

No Data Available Custom roof windows* Window Maximum Substitution tolerance rar	ıpper limi		
Custom roof windows*			
Window Maximum Substitution tolerance rat			
Window Maximum Substitution tolerance rar			
	Substitution tolerance ranges		
Window ID Description U-value* SHGC* SHGC lower limit SHGC u	ıpper limi		
No Data Available			

Root window" schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Ava	ilable							

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] Orientation	Outdoor shade	Diffuser
No Data Avail	able					

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	500	Ν	3800	No
Bedroom 1	EW-1	2700	3400	Е	300	No
Bedroom 1	EW-1	2700	4145	S	300	No
Entry	EW-1	2700	1890	S	1700	No
Bath/Ldry	EW-1	2700	2145	S	0	No
Kitchen/Living	EW-1	2700	3745	Е	3200	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation	
IW-001	Single Skin Brick	30.51	No insulation	
IW-002	Cavity brick	31.59	No Insulation	

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 200mm	12.51	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab on Ground 200mm	6.59	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab on Ground 200mm	7.06	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 200mm	26.49	None	No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Entry	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Ldry	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	



Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Bedroom 1	5	Downlights - LED	150	Sealed	
Entry	2	Downlights - LED	150	Sealed	
Bath/Ldry	3	Downlights - LED	150	Sealed	
Bath/Ldry	3	Exhaust Fans	150	Sealed	
Kitchen/Living	12	Downlights - LED	150	Sealed	
Kitchen/Living	12	Exhaust Fans	150	Sealed	

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location Fuel type		Minimum efficiency/ performance	Recommended capacity
No Data Available				

Appliance/ system type	Lo	cation F	uel type	eff	inimum ficiency/ formance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		ubstitution e ranges upper limit	Assessec daily loac [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficiene performa	cy/	Recomm capad	
No Data Available							

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	

10 Star Rating as of 06 Oct 2023



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

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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, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained 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 in the design documents. Coiling penetrations Eastures that require a penetration to the calling, including downlights, vents, exhaust fans, range hoods, chinneys and flues. Exhausta fans trange hoods without solar on the market in Australia and have a WERS (Window Energy Rating Window Energy Rating Window Energy Rating Window Energy Rating Or Mining flue to contain the market in Australia and have a WERS (Window Energy Rating Default windows the advert on banding or not fining to cost on the market in Australia and have a WERS (Window Energy Rating Or Mining etha advert on banding	AFRC	Australian Fenestration Rating Council
Assessed floor area The floor area in odelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents. Colling penetrations Eastures that require a penetration to the celling, including downlights, vents, extaust fans, range hoods, chinneys and fluos. COP Coefficient of performance Sectors and the celling with small holes through the celling for wirns, e.g. celling fans, pendant lights, and occupancy assumptions. In some circumstances it will include garages. Custom windows Windows listen in NatHERS Software that are available on the market in Australia and have a WERS (Window Energy Rating Schemar) rating. Default windows Energy Selficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input. Energy value The site your homes rating without solar or batteries. Energy value The site your boards the society including, but not limited to costs to the building user, the environment and energy networks (as defined in the ASCB Housing Provisous Standard). Exposure category - ponetexted Terrare door Terrare with workshow on obstructions as grid grazing and ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category - ponetexted Terrare througes shading to the building in the hortzontal plane, e.g. eaves, venandains, pergolas, carports, or overhangs or balconies (MCC) Class Not zero to measure Terrare the funct		M. A Contract of the second seco
COP Coefficient of performance 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 methods. Default windows methods. Default windows windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. EFR Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input for the single without solar or batteries. Energy value The at cost to society including, but not limited to costs to the building user, the environment and energy networks (as Entrance door these signify worthing to the modelling software and must not be modelled as a door when opening to a minimally very worthing benefits in the modelling software and must not be modelled as a door when opening to a minimally 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 – protected terrain with worth worthing in the horizottom below 10m. farmland with scattered sheading feature of basic spaced obstructions below 10m. farmland with scattered sheading feature of the worthing and alcohed dass to babidings. Definitions can be found industrial areas. Provisional Construction Code terrain with numerous, closely spaced obstructions below 10m. farmland with acstared shead, ligh		the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the
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 listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. Default windows windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. ERR Energy Lenergy Lenerg	Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, 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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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. 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. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips 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 (wing walls), forces, other building, weight, or vertical shading e.g. window schading e.g. window awnings or screens but excludes horizontal* or vertical shading	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.
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. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips 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. 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 building, vegetation (protected or listed heritage trees). Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		
StrCs 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. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips 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 privides shading to the building (wing walls), fences, other building, vegetation (protected or listed heritage trees). window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Skylight (also known as roof lights)	
Origon bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) ¹ Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as polystyrene insulation sheeting or plastic strips 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). Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar
Thermal breaks but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips 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 building, vegetation (protected or listed heritage trees). Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
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). Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Thermal breaks	but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such
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). Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Window shading device Window shading device Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Unconditioned	
Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)	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).
	Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991812

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 2, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned*46.2Unconditioned*7.1Total53.2Garage0.0

Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au</u>.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

23.1 MJ/m²

The more stars

the more energy efficient

NATIONWIDE

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	0.2	22.9
Load limits	N/A	N/A

Features determining load limits

Floor Type	N/A
(lowest conditioned area)	IN/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=FSnqNpSVE . When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 2, 17-21 Wardell Road , Alstonville , NSW , 2477



About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



9.5 Star Rating as of 06 Oct 2023

	1		1 -		HOUSE
Certificate check	Approva	l Stage	Construe Stage	ction	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assess	Conser Survey	Builder	Conser Survey	Occupa
Genuine certificate check		•			•
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check		•			•
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high- rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

9.5 Star Rating as of 06 Oct 2023

HOUSE	

	Approva	l Stage	Construe Stage	ction	
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m ²]
Bedroom 1	Bedroom	12.51
Entry	Daytime	6.14
Bath/Ldry	Unconditioned	7.06
Kitchen/Living	Kitchen/Living	27.52
Glazed Common A	Glazed Common Area	26.04

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

Window ID	Window Maximum		SHGC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-03 A	n/a	1200	850	Awning	90	S	No
Bedroom 1	ALM-001-03 A	n/a	1200	850	Awning	90	S	No
Bath/Ldry	ALM-001-03 A	n/a	800	850	Awning	90	W	No
Kitchen/Living	ALM-002-03 A	n/a	2400	2400	Awning	45	W	No
Kitchen/Living	ALM-002-01 A	W1	800	1810	Awning	00	Ν	No
Glazed Common A	ALM-001-03 A	n/a	2400	1000	Awning	90	W	No
Glazed Common A	ALM-002-01 A	n/a	2400	800	Awning	00	W	No
Glazed Common A	ALM-002-01 A	n/a	2400	1410	Awning	00	E	No
Glazed Common A	ALM-001-03 A	n/a	2400	1000	Awning	90	E	No



Indoor

shade

Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	SHCC*	Substitution tolerance ranges		
	dow ID Description U-value* SHGC*		SHGC	SHGC lower limit	SHGC upper limit	
No Data Avail	able					
Custom roof w	vindows*					
	Window	Maximum	81100*	Substitution to	lerance ranges	
Alim days ID			SHGC*	SHGC lower limit	SHGC upper limit	
Window ID	Description	U-value*		SHGC lower limit	Silde upper lillit	
Window ID No Data Avail	•	U-value*		SHGC lower limit	Silde upper initi	
	•	U-value*		SHGC lower limit	Shoc upper ini	

Location Window Window Opening Height Width Orientation Outdoor ID no. % [mm] [mm] Shade

No Data Available

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] Orientation	Outdoor shade	Diffuser
No Data Avail	able					

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	4145	S	0	No
Entry	EW-1	2700	1690	S	0	No
Bath/Ldry	EW-1	2700	3345	W	0	No
Bath/Ldry	EW-1	2700	2145	S	0	No
Kitchen/Living	EW-1	2700	3745	W	2400	No
Kitchen/Living	EW-1	2700	6200	Ν	0	No
Glazed Common A	EW-1	2700	2945	W	1600	No
Glazed Common A	EW-1	2700	600	Ν	0	No
Glazed Common A	EW-1	2700	3000	E	1800	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Single Skin Brick	36.72	No insulation
IW-002	Cavity brick	57.24	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground	12.51	None	No	Carpet+Rubber Underlay
	200mm	-		Insulation	18mm
Entry	Concrete Slab on Ground	6.14	6.14 None No Ceramic Tiles 8m		Ceramic Tiles 8mm
Entry	200mm	0.14 None		Insulation	
Bath/Ldry	Concrete Slab on Ground	7.06 None		No	Ceramic Tiles 8mm
Dati / Lui y	200mm	7.00	NULLE	Insulation	Ceramic mes omm
Kitchon/Living	Concrete Slab on Ground	27.52	News	No	Ceramic Tiles 8mm
Kitchen/Living	200mm	27.52	None	Insulation	Ceramic mes omm
Glazed Common A	Concrete Slab on Ground	26.04	Nere	No	Ceramic Tiles 8mm
Glazed Common A	200mm	20.04	None	Insulation	

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Entry	Concrete, Plasterboard with Timber Frame	No insulation	

0008991812 NatHERS Certificate

9.5 Star Rating as of 06 Oct 2023

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bath/Ldry	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Glazed Common A	Concrete, Plasterboard with Timber Frame	No insulation	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Entry	2	Downlights - LED	150	Sealed
Bath/Ldry	3	Downlights - LED	150	Sealed
Bath/Ldry	3	Exhaust Fans	150	Sealed
Kitchen/Living	12	Downlights - LED	150	Sealed
Kitchen/Living	12	Exhaust Fans	150	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

0008991812 NatHERS Certificate	9.5 Sta	r Rating as of	06 Oct 2023				HOUS
Cooling system							
Appliance/ system type	Lo	cation	Fuel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation	Fuel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency e /STC	Zone 3 STC		Ibstitution e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	cy/	Recomm capac	
No Data Available							
Onsite Renewable E	nergy Sch	edule					
System Type Orie	ntation		Syst	tem Size O	r Generation	Capacity	

Battery Schedule

No Data Available

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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	see exposure categories below.
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 – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
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 features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
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.
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.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
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).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eq eaves and balconies)

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991838

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 3, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 63.4 Unconditioned* 7.5 Total 70.9 Garage 0.0 Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au</u>.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars

the more energy efficient

NATIONWIDE

18.8 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
odelled	0.1	18.7
oad limits	N/A	N/A

Features determining load limits

M

L

Floor Type	
(lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=AUQgegkmY . When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 3, 17-21 Wardell Road , Alstonville , NSW , 2477



About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No NA Not Ar

NA – Not Applicable Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



10 Star Rating as of 06 Oct 2023

HOU	SE

Certificate check	Approva	I Stage	Construe Stage	ction	Conversion of a
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	hecked	Consent Authority Surveyor checked	cy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	ossəssy	Consent Surveyor	Builder checked	Consent Surveyor	Occupancy/Other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



	Approva	I Stage	Construction Stage		
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m ²]	
Bedroom 1	Bedroom	13.17	
Entry	Daytime	6.25	
Bath/Ldry	Unconditioned	7.47	
Kitchen/Living	Kitchen/Living	32.89	
Bedroom 2	Bedroom	11.09	

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum SHGC*		Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

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

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-03 A	W1	1800	1810	Awning	30	E	No
Kitchen/Living	ALM-002-03 A	n/a	2400	2410	Awning	45	W	No
Kitchen/Living	ALM-001-03 A	n/a	1200	1450	Awning	45	E	No
Kitchen/Living	ALM-001-03 A	n/a	2400	1000	Awning	90	E	No
Bedroom 2	ALM-001-03 A	n/a	1800	1810	Awning	30	W	No

Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Avail	able					



Custom roof windows*

Window ID	Window	Maximum	mum SHGC*	Substitution tolerance ranges		
	Description U-value*		SHGC" -	SHGC lower limit	SHGC upper limit	
No Data Avai	lable					

Roof window* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Ava	ilable							

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] Orientation	Outdoor shade	Diffuser
No Data Availa	able					

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3500	E	0	No
Bedroom 1	EW-1	2700	1800	S	3900	No
Kitchen/Living	EW-1	2700	3845	W	3600	No
Kitchen/Living	EW-1	2700	3845	E	1400	No

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10 Star Rating as of 06 Oct 2023



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 2	EW-1	2700	3500	W	300	No
Bedroom 2	EW-1	2700	700	S	3900	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation	
IW-001	Single Skin Brick	44.55	No insulation	
IW-002	Cavity brick	46.44	No Insulation	

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 200mm	13.17	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab on Ground 200mm	6.25	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab on Ground 200mm	7.47	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 200mm	32.89	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 200mm	11.09	None	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Entry	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Ldry	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	6	Downlights - LED	150	Sealed
Entry	2	Downlights - LED	150	Sealed
Bath/Ldry	3	Downlights - LED	150	Sealed

0008991838 NatHERS Certificate	0008991838	NatHERS	Certificate	
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10 Star Rating as of 06 Oct 2023



Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	CHILLION STOR
Bath/Ldry	3	Exhaust Fans	150	Sealed	
Kitchen/Living	14	Downlights - LED	150	Sealed	
Kitchen/Living	14	Exhaust Fans	150	Sealed	
Bedroom 2	5	Downlights - LED	150	Sealed	

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200
Bedroom 2	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]	
None Present				

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				
Heating system				
Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				

0008991838 NatHERS Certificate

10 Star Rating as of 06 Oct 2023



Hot water system

Appliance/ system type	Fuel type	Hot Fuel type Water CER Zone	Minimum efficiency /STC	Zone 3 STC	Zone 3 Substitution tolerance ranges		Assessed daily load
					lower limit	upper limit	[litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	cy/	Recomm capac	
No Data Available							

Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Australian Fenestration Rating Council
the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
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.
features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, 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.
Coefficient of performance
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.
windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
This is your homes rating without solar or batteries.
The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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.
see exposure categories below.
terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
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).
terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
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.
a home that achieves a net zero energy value*.
the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
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
this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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.
includes neighbouring buildings, fences, and wing walls, but excludes eaves.
) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
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.
Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991853

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 4, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 49.0 Unconditioned* 7.0 Total 56.0 Garage 0.0 Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au</u>.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

D.J The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

49.6 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling			
lodelled	9.6	40.1			
oad limits	N/A	N/A			

Features determining load limits

M

L

Floor Type	
(lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=lgzHmFlzY . When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 4, 17-21 Wardell Road , Alstonville , NSW , 2477



About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



6.3 Star Rating as of 06 Oct 2023

•					HOUSE
Certificate check		I Stage	Stage Construction Stage		
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Asses	Conse Surve	Builde	Conse	Occup
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

6.3 Star Rating as of 06 Oct 2023

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	Approva	l Stage	Construe Stage	ction	
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room Zone Type		Area [m ²]
Bedroom 1	Bedroom	14.37
Entry	Daytime	5.7
Bath/Ldry	Unconditioned	6.96
Kitchen/Living	Kitchen/Living	28.97
Glazed Common A	Glazed Common Area	29.76

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

Window ID	Window Maximum		SHGC*	Substitution tolerance ranges		
WINGOW ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-03 A	W2	1800	1810	Awning	10	E	No
Bedroom 1	ALM-002-03 A	n/a	600	1810	Awning	00	S	No
Bath/Ldry	ALM-001-03 A	W1	800	800	Awning	90	S	No
Kitchen/Living	ALM-002-03 A	W3	2400	2410	Awning	45	E	Yes
Glazed Common A	ALM-001-01 A	n/a	1800	2170	Awning	60	W	No
Glazed Common A	ALM-001-01 A	W4	1800	2170	Awning	60	E	No



Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Avail	able					
Custom roof w	vindows*					
	Window	Maximum	SHGC*	Substitution to	lerance ranges	
Window ID			5HGC"		01100	
Window ID	Description	U-value*	01100	SHGC lower limit	SHGC upper limit	
Window ID	Description	U-value*	0.000	SHGC lower limit	SHGC upper lin	
Window ID No Data Avail	Description	U-value*		SHGC lower limit	SHGC upper limit	

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

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance	
No Data Available			

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] Orientation	Outdoor shade	Diffuser
No Data Available						

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	500	Ν	7100	No
Bedroom 1	EW-1	2700	3400	E	300	Yes
Bedroom 1	EW-1	2700	4495	S	300	Yes
Entry	EW-1	2700	1790	S	200	No
Bath/Ldry	EW-1	2700	2195	S	200	Yes
Kitchen/Living	EW-1	2700	3840	Е	3500	Yes
Glazed Common A	EW-1	2700	3100	W	200	No
Glazed Common A	EW-1	2700	500	Ν	100	No
Glazed Common A	EW-1	2700	3045	E	500	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	52.38	No insulation
IW-002	Cavity brick	43.74	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	14.37	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab, Unit Below 200mm	5.70	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab, Unit Below 200mm	6.96	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	28.97	None	No Insulation	Ceramic Tiles 8mm
Glazed Common A	Concrete Slab, Unit Below 200mm	29.76	None	No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Entry	Plasterboard on Timber	Bulk Insulation R2.5	

0008991853 NatHERS C	ertificate 6.3 s	Star Rating as	s of 06 Oct 2023		HOUSE
Location	Construction material/type		Bulk insulation R-value (may include edge batt valu	ues)	Reflective wrap* [yes/no]
Bath/Ldry	Plasterboard on	Timber	Bulk Insulation R2.5		
Kitchen/Living	Plasterboard on	Timber	Bulk Insulation R2.5		
Glazed Common A	Plasterboard on	Timber	Bulk Insulation R2.5		

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Entry	2	Downlights - LED	150	Sealed
Bath/Ldry	3	Downlights - LED	150	Sealed
Bath/Ldry	3	Exhaust Fans	150	Sealed
Kitchen/Living	12	Downlights - LED	150	Sealed
Kitchen/Living	12	Exhaust Fans	150	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptance Roof shade[colour]		
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	50	Medium	

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

0008991853 NatHERS Certificate	6.3 Sta	r Rating as of	06 Oct 2023				HOUSE
Cooling system							
Appliance/ system type	Lo	cation	Fuel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation	Fuel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		ubstitution e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	cy/	Recomm capad	
No Data Available							
Onsite Renewable E	nergy Sch	edule					
System Type Orie	entation		Syst	em Size O	r Generation	Capacity	

Battery Schedule

No Data Available

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

	Australian Fenestration Rating Council
	he predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area th	or area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the oor area in the design documents.
Ceiling penetrations	eatures that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and leating and cooling ducts.
	Coefficient of performance
conditioned ci	zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some ircumstances it will include garages.
	vindows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
	vindows that are representative of a specific type of window product and whose properties have been derived by statistical nethods.
	nergy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity
	his is your homes rating without solar or batteries.
Lileigy value de	he net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as efined in the ABCB Housing Provisions Standard).
	hese signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally entilated corridor in a Class 2 building.
	ee exposure categories below.
	errain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
	errain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with cattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
	errain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
	errain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizonial shaung leature	rovides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies rom upper levels.
	he 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.
	home that achieves a net zero energy value*.
	he openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value a	In assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note ind can be found at www.nathers.gov.au
Recommended capacity zo	nis is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the one or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified erson.
Reflective wrap (also known as ca foil)	an be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides nsulative properties.
Roof window fo	or 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 pace, and generally does not have a diffuser.
Shading features in	ncludes neighbouring buildings, fences, and wing walls, but excludes eaves.
	or NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
(SHGC)	ne fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and ubsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar leat it transmits.
STCs S	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be ought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks by	re materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, ut is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such is polystyrene insulation sheeting or plastic strips
U-value th	ne rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
	zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	rovides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes rivacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device defe	levice fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading eatures* (eg eaves and balconies)

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991861

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 5, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 48.6 Unconditioned* 7.0 Total 55.5 Garage 0.0 Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

42.2 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

Heating	Cooling
2.6	39.6
N/A	N/A
	2.6

Features determining load limits

Floor Type	N/A
(lowest conditioned area)	190
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=EvurrTOMP. When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 5, 17-21 Wardell Road , Alstonville , NSW , 2477



About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



7.2 Star Rating as of 06 Oct 2023

			Constru	ction	HOUSE
Certificate check	Approval Stage		Stage		
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Asses	Conse Surve	Builde	Conse Surve	Occup
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor		-	-		
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)		-	-		
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high- rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

7.2 Star Rating as of 06 Oct 2023

HOUSE	

	Approva	I Stage	Construction Stage		
Certificate check	necked	thority/ ecked	cked	thority ecked	Other
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m ²]
Bedroom 1	Bedroom	13.4
Entry	Daytime	5.7
Bath/Ldry	Unconditioned	6.96
Kitchen/Living	Kitchen/Living	29.48
Glazed Common A	Glazed Common Area	28.16

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum SHGC*		*Substitution tolerance ranges		
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WIIIdow ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-03 A	n/a	1200	850	Awning	10	S	No
Bedroom 1	ALM-001-03 A	n/a	1200	850	Awning	10	S	No
Bath/Ldry	ALM-001-03 A	n/a	800	850	Awning	90	W	No
Kitchen/Living	ALM-002-03 A	W1	2400	2410	Awning	45	W	No
Kitchen/Living	ALM-002-03 A	W2	800	1810	Awning	00	Ν	No
Glazed Common A	ALM-001-01 A	n/a	1800	2170	Awning	60	W	No
Glazed Common A	ALM-001-01 A	n/a	1800	2170	Awning	60	E	No



Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	8400*	Substitution to	lerance ranges
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Avai	lable				
Custom roof v	vindows*				
	Window	Maximum	01100*	Substitution tolerance rang	
		11	SHGC*	SHGC lower limit	SHGC upper limit
Window ID	Description	U-value*			
Window ID No Data Avail	•	U-value*			
	•	U-value*			
No Data Avai	•	U-value"			

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	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] Orientation	Outdoor shade	Diffuser
No Data Available						

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	4195	S	100	No
Entry	EW-1	2700	1790	S	100	No
Bath/Ldry	EW-1	2700	3395	W	100	Yes
Bath/Ldry	EW-1	2700	2195	S	100	No
Kitchen/Living	EW-1	2700	3795	W	2400	Yes
Kitchen/Living	EW-1	2700	6200	Ν	100	No
Glazed Common A	EW-1	2700	2945	W	100	No
Glazed Common A	EW-1	2700	400	Ν	100	No
Glazed Common A	EW-1	2700	3000	E	600	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	36.72	No insulation
IW-002	Cavity brick	57.78	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	13.40	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab, Unit Below 200mm	5.70	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab, Unit Below 200mm	6.96	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	29.48	None	No Insulation	Ceramic Tiles 8mm
Glazed Common A	Concrete Slab, Unit Below 200mm	28.16	None	No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Entry	Plasterboard on Timber	Bulk Insulation R2.5	

0008991861 NatHERS C	ertificate 7.2 Star Rating a	s of 06 Oct 2023	HOUSE
Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bath/Ldry	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Glazed Common A	Plasterboard on Timber	Bulk Insulation R2.5	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Entry	2	Downlights - LED	150	Sealed
Bath/Ldry	3	Downlights - LED	150	Sealed
Bath/Ldry	3	Exhaust Fans	150	Sealed
Kitchen/Living	12	Downlights - LED	150	Sealed
Kitchen/Living	12	Exhaust Fans	150	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptan	ce Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	50	Medium

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

0008991861 NatHERS Certificate	7.2 Sta	r Rating as of	06 Oct 2023				HOUVE
Cooling system							
Appliance/ system type	Lo	cation	Fuel type	eff	nimum iciency/ ormance		mended acity
No Data Available				•			
Heating system							
Appliance/ system type	Lo	cation	Fuel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		Ibstitution e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	cy/	Recomm capac	
No Data Available							
Onsite Renewable E	nergy Sch	edule					
System Type Orie	entation		Syst	em Size O	r Generation	Capacity	

Battery Schedule

No Data Available

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained 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 in the design documents. Including documents. Celling penetrations Exactions of the require a penetration to the celling with shall holes through the celling for wiring, e.g. celling fans, pendant lights, and counsistent with the documents. Conditioned a consistent with ned design documents. Coelling on the require a penetration to the celling with shall holes through the celling for wiring, e.g. celling fans, pendant lights, and counsistent with a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances within dow garagies. Custom windows wirdows that are representative of a specific type of window product and whose properties have been derived by statistical methods. EFE Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input. Energy walue The second bin of bin input statistical costs to the building user, the environment and energy networks (as depoints being in the modelled bin os class 2 building. Exposure category – protected terrain with none stating without statistical costs to the building user, the environment and energy networks (as thereas on the second bin devised bin the oblicing and accundulation second bin devised bin the oblicing. Exposure category – protected terrain with nonestating without stera da standard devis	AFRC	Australian Fenestration Rating Council
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. Gelling penetrations Eastures that require a penetration to the celling downlights, verise, exhaust fans, range hoods, chimneys and flues. Excludes fluxes attached to be celling with shall holes hrought the celling for wring, e.g. celling fans, pendant lights, and the celling with shall holes hrought the celling for wring, e.g. celling fans, pendant lights, and the celling with shall holes hrought the celling for wring, e.g. celling fans, pendant lights, and the celling with shall holes hroughts and the celling with shall holes hroughts and the celling with shall be well be celling with shall be cel		N N N N N N N N N N N N N N N N N N N
COP Coefficient of performance Conditioned a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some characteristics it will include garages. Custom windows Scheme) rating. Default windows Window Energy Rating Scheme) rating. Window State are representative of a specific type of window product and whose properties have been derived by statistical methods. EER Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity including, but not limited to, costs to the building user, the environment and energy networks (as these singly value) Entrance door Thes is your homes rating without solar or batteries. Exposure ese exposure category is below. Exposure category - sposed terrain with no obstructions eg., flat grazing land, ccean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category - protected terrain with wo obstructions eg., flat grazing land, ccean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category - protected terrain with wo obstructions below. Exposure category - protected terrain with numerous, closely spaced obstructions blow Tom dindustrial areas. Exposure category - protected terrain with numerous, closely spaced obstructions blow Tom dindustrial areas		the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the
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Custom windows circumstances is will include garages. Custom windows windows listed in NatHERS software that are variable 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 input. ERR Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input. Energy use The net cost to sociely including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Exposure category - exposed these signify ventilation beelfs in the modelling software and must not be modelled as a door whon opening to a minimally ventilated corridor in a Class 2 building. Exposure category - protected terrain with nonecoust, closely spaced obstructions below 10n e.g. auburban housing, heavity vegetated bushland areas. Exposure category - protected terrain with numerous, closely spaced obstructions duel on e.g. avaburban housing, heavity vegetated bushland areas. National Construction Code (NCC) Class 1. the NCC groups building in the horizontal plane, e.g. avas; vermadahs, pergolas, catports, or overhangs or balconies from upper levels. National Construction Code (NCC) Class 1. the NCC groups building in the noticontal plane, e.g. avas; bergolas, catports, or overhangs or balconies from upper levels.	COP	Coefficient of performance
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Exposure category – suburban 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.abtcb.gov.au. Net zero home a home that achieves a net zero energy value*. 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 to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person. 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. Shading features includes neighbouring buildings, fonces, and wing walls, but excludes eaves. Shading features includes neighbouring buildings, fonces, and wing walls, but excludes eaves.		scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Horizontal shading feature provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies 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 10b buildings. Definitions can be found at www.abcb.gov.au. Net zero home a home that achieves a net zero energy value*. Opening percentage the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. 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 Recommended capacity this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person. 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 includes neighbouring buildings, fences, and wing walls, but excludes eaves. Skylight (also known as roof lights) 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 generaly does rariation and antitted through a window, both direcult transmitted as well as absorbed and subsequent		
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Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Unconditioned	
	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).
	Window shading device	

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991762

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 6, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 67.5 Unconditioned* 7.5 Total 75.0 Garage 0.0 Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

D.J The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

54.0 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
lodelled	2.3	51.7
oad limits	N/A	N/A

Features determining load limits

Floor Type	NI/A
(lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=ILjLDCzLS. When using either link, ensure you are visiting hstar.com.au





About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



5.9 Star Rating as of 06 Oct 2023

5.5 Star Rating as 01 00 Oct 2025					HOUSE
Certificate check	Approva	I Stage	Constru Stage	ction	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked. Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Genuine certificate check		<u> </u>	<u> </u>	[<u> </u>
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls			•		
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor		•			•
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
				· · · · · · · · · · · · · · · · · · ·	

Do the load limits settings (shown on page 1) match what is shown



	Approva	I Stage	Construe Stage	ction	
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	I
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Home	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	ment)		I
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m ²]
Bedroom 1	Bedroom	14.47
Entry	Daytime	5.54
Bath/Ldry	Unconditioned	7.49
Kitchen/Living	Kitchen/Living	35.36
Bedroom 2	Bedroom	12.17
Glazed Common A	Glazed Common Area	30.13

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum U-value* SHGC*		Substitution tolerance ranges		
	Description			SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

Window ID	Window	indow Maximum SHGC*		Substitution tolerance ranges		
	Description	U-value*	3660	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*
Bedroom 1	ALM-001-03 A	n/a	1800	1810	Awning	10	E	No
Kitchen/Living	ALM-002-03 A	n/a	2400	2410	Awning	45	W	No
Kitchen/Living	ALM-001-03 A	n/a	1200	2050	Awning	10	E	No
Bedroom 2	ALM-001-03 A	n/a	1800	1810	Awning	10	W	No
Glazed Common A	ALM-001-01 A	n/a	1800	2170	Awning	60	W	No
Glazed Common A	ALM-001-01 A	W1	1800	2170	Awning	60	E	No



Roof window* type and performance value

Default roof windows*

Window ID Des	scription	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					
Custom roof window	'S*				
Window ID Wir	ndow	Maximum	0U00t	Substitution to	lerance ranges
Window ID Des	scription	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					

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

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance	
No Data Available			

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] Orientation	Outdoor shade	Diffuser
No Data Avail	able					

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3500	E	300	Yes
Bedroom 1	EW-1	2700	1800	S	100	No
Kitchen/Living	EW-1	2700	3940	W	3300	Yes
Kitchen/Living	EW-1	2700	3995	Е	100	No
Kitchen/Living	EW-1	2700	300	S	3200	No
Bedroom 2	EW-1	2700	3500	W	300	Yes
Bedroom 2	EW-1	2700	800	S	7200.01085068627	No
Glazed Common A	EW-1	2700	3100	W	100	No
Glazed Common A	EW-1	2700	900	Ν	7600.01027959831	No
Glazed Common A	EW-1	2700	3095	E	400	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	69.39	No insulation
IW-002	Cavity brick	48.06	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	14.47	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab, Unit Below 200mm	5.54	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab, Unit Below 200mm	7.49	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	35.36	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	12.17	None	No Insulation	Carpet+Rubber Underlay 18mm
Glazed Common A	Concrete Slab, Unit Below 200mm	30.13	None	No Insulation	Ceramic Tiles 8mm



Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Entry	Plasterboard on Timber	Bulk Insulation R2.5	
Bath/Ldry	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Glazed Common A	Plasterboard on Timber	Bulk Insulation R2.5	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	6	Downlights - LED	150	Sealed
Entry	2	Downlights - LED	150	Sealed
Bath/Ldry	3	Downlights - LED	150	Sealed
Bath/Ldry	3	Exhaust Fans	150	Sealed
Kitchen/Living	15	Downlights - LED	150	Sealed
Kitchen/Living	15	Exhaust Fans	150	Sealed
Bedroom 2	5	Downlights - LED	150	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200
Bedroom 2	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptance Roof shade[colour]		
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	50	Medium	

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				



Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location Fuel type		Minimum efficiency/ performance		Recommended capacity		
No Data Available							
leating system							
Appliance/ system type	Location Fuel type		Minimum efficiency/ performance		Recommended capacity		
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC -		Ibstitution e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac	
No Data Available							

Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]	
No Data Available		



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained 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 in the design documents. Ceiling penetrations Eastures that require a penetration to the ceiling with shall holes through the ceiling for wiring, e.g. ceiling fans, pendant lights, and Cool Coefficient of performance Coefficient of performance 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 gargies. Custom windows windows flated in NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input is your homes rating without solar or batteries. Entrance door these signify verification cells in the modeling bit of building user, the environment and energy networks (as tell-regor use actegory – exposed high-rise wint (as tell-specified cells) in the productions solar and the solar tell-regor solar and the solar tell-regor willicon benefits in the modeling of solar to the building user, the environment and energy networks (as tell-specified and the ABCE Housing Provisions Standard). Entrance the operation of the solar tell specified bit the indegling bit the indegling of the tell-regor solar and tell solar tell-rego	AFRC	Australian Fenestration Rating Council
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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 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. Net zero home a home that achieves a net zero energy value*. Opening percentage the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. 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 Recommended capacity this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person. 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 includes neighbouring buildings, fences, and wing walls, but excludes eaves. Skylight (also known as roof lights) 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 subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it t		
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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). Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Window shading device Device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Unconditioned	
Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)	Vertical shading features	privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
	Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991770

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 7, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 63.4 Unconditioned* 7.5 Total 70.8 Garage 0.0 Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars

the more energy efficient

NATIONWIDE

19.0 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	0.0	19.0
Load limits	N/A	N/A

Features determining load limits

Floor Type	N/A
(lowest conditioned area)	
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=YEcapayqk . When using either link, ensure you are visiting hstar.com.au





About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



10 Star Rating as of 06 Oct 2023

HOUSE	

Certificate check	Approva	l Stage	Construe Stage	ction	DARK KANG SUBAL &
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	hecked	Consent Authority Surveyor checked	cy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyor	Builder checked	Consent Surveyor	Occupancy/Other
Genuine certificate check	•				
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling	-				
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



	Approva	I Stage	Stage Construct Stage Stage		
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
	As	ັນ ທີ	Bı	ະບັ ເບັ	ŏ
Additional NCC requirements for thermal performance (not inclu-	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m ²]	
Bedroom 1	Bedroom	13.18	
Entry	Daytime	6.22	
Bath/Ldry	Unconditioned	7.46	
Kitchen/Living	Kitchen/Living	32.89	
Bedroom 2	Bedroom	11.1	

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

Window ID	Window	dow Maximum SHGC		Substitution tolerance ranges		
willdow iD	Description	U-value*	3160	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*
Bedroom 1	ALM-001-03 A	W1	1800	1810	Awning	30	E	No
Kitchen/Living	ALM-001-03 A	W2	1200	1450	Awning	45	E	No
Kitchen/Living	ALM-001-03 A	n/a	2400	1000	Awning	90	E	No
Kitchen/Living	ALM-002-03 A	n/a	2400	2410	Awning	45	W	No
Bedroom 2	ALM-001-03 A	n/a	1800	1810	Awning	30	W	No

Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	imum SHGC* -	Substitution tolerance ranges		
	Description	U-value*	SHOC	SHGC lower limit	SHGC upper limit	
No Data Avail	able					

* Refer to glossary. Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 7, 17-21 Wardell Road , Alstonville , NSW , 2477



Custom roof windows*

Window ID	Window	Maximum	SHGC* -	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
No Data Avai	lable					

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	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] Orientation	Outdoor shade	Diffuser	
No Data Available							

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	1800	Ν	3900	No
Bedroom 1	EW-1	2700	3500	Е	0	No
Kitchen/Living	EW-1	2700	3845	Е	1400	No
Kitchen/Living	EW-1	2700	3845	W	3600	No

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10 Star Rating as of 06 Oct 2023



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 2	EW-1	2700	700	Ν	3900	No
Bedroom 2	EW-1	2700	3500	W	300	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation	
IW-001	Single Skin Brick	47.25	No insulation	
IW-002	Cavity brick	46.44	No Insulation	

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 200mm	13.18	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab on Ground 200mm	6.22	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab on Ground 200mm	7.46	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 200mm	32.89	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 200mm	11.10	None	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Entry	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Ldry	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	6	Downlights - LED	150	Sealed
Entry	2	Downlights - LED	150	Sealed
Bath/Ldry	3	Downlights - LED	150	Sealed

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10 Star Rating as of 06 Oct 2023



Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	CONTRACTOR 6
Bath/Ldry	3	Exhaust Fans	150	Sealed	
Kitchen/Living	14	Downlights - LED	150	Sealed	
Kitchen/Living	14	Exhaust Fans	150	Sealed	
Bedroom 2	5	Downlights - LED	150	Sealed	

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200
Bedroom 2	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location Fuel type		Minimum efficiency/ performance	Recommended capacity	
No Data Available					
Heating system					
Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity	
No Data Available					

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10 Star Rating as of 06 Oct 2023



Hot water system

Appliance/ system type	Hot Fuel type Water CER Zone	Minimum efficiency	Zone 3	Zone 3 Substitution tolerance ranges		Assessed daily load	
		CER Zone	/STC	STC -	lower limit	upper limit	[litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	cy/	Recomm capac	
No Data Available							

Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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	see exposure categories below.
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 – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
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 features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights	
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.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
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).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991796

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 8, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned*60.2Unconditioned*7.5Total67.6Garage0.0

Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

20.4 MJ/m²

The more stars

the more energy efficient

NATIONWIDE

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
lodelled	0.2	20.1
oad limits	N/A	N/A

Features determining load limits

Floor Type	
(lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=hiFzsAIEa . When using either link, ensure you are visiting hstar.com.au





About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA - Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



9.9 Star Rating as of 06 Oct 2023

····· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ··			_		HOUSE
Certificate check	Approva	I Stage	Construe Stage		
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesse	Consen Surveyc	Builder	Consen Surveyo	Occupa
Genuine certificate check		•	•	•	
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check		•	•	•	
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling		-	-	-	
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high- rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

9.9 Star Rating as of 06 Oct 2023

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	Approva	l Stage	Construction Stage		
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m²]	
Bedroom 1	Bedroom	13.16	
Entry	Daytime	6.25	
Bath/Ldry	Unconditioned	7.47	
Kitchen/Living	Kitchen/Living	29.36	
Bedroom 2	Bedroom	11.38	

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*		SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

Window ID	Window	Maximum	SHGC* -	Substitution tolerance ranges		
WINGOW ID	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-03 A	n/a	1800	1810	Awning	30	E	No
Kitchen/Living	ALM-002-03 A	n/a	2400	2410	Awning	45	W	No
Kitchen/Living	ALM-001-03 A	n/a	800	1810	Awning	90	Ν	No
Kitchen/Living	ALM-001-03 A	n/a	1200	1450	Awning	45	E	No
Kitchen/Living	ALM-001-03 A	n/a	2400	1000	Awning	90	E	No
Bedroom 2	ALM-001-03 A	n/a	1800	1810	Awning	30	W	No



Roof window* type and performance value

Default roof windows*

Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
blo				once apper mint
able				
indows*				
Window	Maximum	SUCC*	Substitution to	lerance ranges
Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit
able				
	Window Description	Window Maximum Description U-value*	Window Maximum Description U-value* SHGC*	Window Maximum Substitution to Description U-value* SHGC* SHGC lower limit

I WINDOW Schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Avai	ilable							

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] Orientation	Outdoor shade	Diffuser
No Data Available						

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3500	Е	100	No
Bedroom 1	EW-1	2700	1900	S	0	No
Kitchen/Living	EW-1	2700	3845	W	3600	No
Kitchen/Living	EW-1	2700	8500	Ν	0	No
Kitchen/Living	EW-1	2700	3845	Е	1200	No
Bedroom 2	EW-1	2700	3500	W	0	Yes

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Single Skin Brick	41.85	No insulation
IW-002	Cavity brick	33.21	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 200mm	13.16	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab on Ground 200mm	6.25	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab on Ground 200mm	7.47	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 200mm	29.36	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 200mm	11.38	None	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Entry	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Ldry	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	



Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Bedroom 1	6	Downlights - LED	150	Sealed	
Entry	2	Downlights - LED	150	Sealed	
Bath/Ldry	3	Downlights - LED	150	Sealed	
Bath/Ldry	3	Exhaust Fans	150	Sealed	
Kitchen/Living	13	Downlights - LED	150	Sealed	
Kitchen/Living	13	Exhaust Fans	150	Sealed	
Bedroom 2	5	Downlights - LED	150	Sealed	

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200
Bedroom 2	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location Fuel type		Minimum efficiency/ performance	Recommended capacity	
No Data Available					

Appliance/ system type	Lo	cation F	uel type	eff	inimum iciency/ ^c ormance		mended acity
No Data Available				•			
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		ibstitution e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	cy/	Recomm capad	
No Data Available							

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

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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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

	Australian Fenestration Rating Council
	he predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area th	or area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the oor area in the design documents.
Ceiling penetrations	eatures that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and leating and cooling ducts.
	Coefficient of performance
conditioned ci	zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some ircumstances it will include garages.
	vindows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
	vindows that are representative of a specific type of window product and whose properties have been derived by statistical nethods.
	nergy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity
	his is your homes rating without solar or batteries.
Lileigy value de	he net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as efined in the ABCB Housing Provisions Standard).
	hese signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally entilated corridor in a Class 2 building.
	ee exposure categories below.
	errain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
	errain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with cattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
	errain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
	errain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizonial shaung leature	rovides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies rom upper levels.
	he 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.
	home that achieves a net zero energy value*.
	he openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value a	In assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note ind can be found at www.nathers.gov.au
Recommended capacity zo	nis is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the one or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified erson.
Reflective wrap (also known as ca foil)	an be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides nsulative properties.
Roof window fo	or 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 pace, and generally does not have a diffuser.
Shading features in	ncludes neighbouring buildings, fences, and wing walls, but excludes eaves.
	or NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
(SHGC)	ne fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and ubsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar leat it transmits.
STCs S	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be ought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks by	re materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, ut is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such is polystyrene insulation sheeting or plastic strips
U-value th	ne rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
	zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	rovides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes rivacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device defe	levice fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading eatures* (eg eaves and balconies)

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991820

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 9, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 67.6 Unconditioned* 7.5 Total 75.1 Garage 0.0 Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

J.O The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

55.1 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling		
lodelled	3.1	52.0		
oad limits	N/A	N/A		

Features determining load limits

A
)
1

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=fKeCONImV . When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 9, 17-21 Wardell Road , Alstonville , NSW , 2477



About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No Not Ar

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



5.8 Star Rating as of 06 Oct 2023

Ë	 1
E HI	ISE

Certificate check	Approva	I Stage	Construe Stage	ction	CHEVY TO AS SOLD
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	hecked	Consent Authority Surveyor checked	cy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent	Builder checked	Consent. Surveyor	Occupancy/Other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor		-	-		
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



	Approva	Il Stage	Constru Stage	ction		
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other	
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)		
Thermal bridging						
Does the dwelling meet the NCC requirement for thermal bridging?						
Insulation installation method						
Has the insulation been installed according to the NCC requirements?						
Building sealing						
Does the dwelling meet the NCC requirements for Building Sealing?						
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)						
Appliances						
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?						
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?						
Additional NCC Requirements for Services (not included in the	NatHERS	S assessi	ment)			
Does the lighting meet the artificial lighting requirements specified in the NCC?						
Does the hot water system meet the additional requirements specified in the NCC?						
Provisional values* check						
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?						
Other NCC requirements						

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room Zone Type		Area [m ²]
Bedroom 1 Bedroom		14.47
Entry	Daytime	5.54
Bath/Ldry	Unconditioned	7.49
Kitchen/Living	Kitchen/Living	35.36
Bedroom 2	Bedroom	12.26
Glazed Common A	Glazed Common Area	30.13

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

Window ID	Window Maximum		SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	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*
Bedroom 1	ALM-001-03 A	n/a	1800	1810	Awning	10	E	No
Kitchen/Living	ALM-001-03 A	W3	1200	2050	Awning	10	E	No
Kitchen/Living	ALM-002-03 A	n/a	2400	2410	Awning	45	W	No
Bedroom 2	ALM-001-03 A	n/a	1800	1810	Awning	10	W	No
Glazed Common A	ALM-001-01 A	n/a	1800	2170	Awning	60	E	No
Glazed Common A	ALM-001-01 A	n/a	1800	2170	Awning	60	W	No



Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum		Substitution tolerance ranges		
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Avail	lable					
Custom roof v	vindows*					
Mindow ID	Window	Maximum	SUCC*	Substitution to	lerance ranges	
Window ID	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Avail	lable					
	dow* schedule					

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

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance	
No Data Available			

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] O	Orientation	Outdoor shade	Diffuser
No Data Available							

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	1800	Ν	100	No
Bedroom 1	EW-1	2700	3500	Е	300	Yes
Kitchen/Living	EW-1	2700	300	Ν	3200	No
Kitchen/Living	EW-1	2700	3995	Е	100	No
Kitchen/Living	EW-1	2700	3940	W	3300	Yes
Bedroom 2	EW-1	2700	800	Ν	7200	No
Bedroom 2	EW-1	2700	3500	W	300	Yes
Glazed Common A	EW-1	2700	3095	E	400	No
Glazed Common A	EW-1	2700	900	S	7600	No
Glazed Common A	EW-1	2700	3100	W	100	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	71.82	No insulation
IW-002	Cavity brick	48.06	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	14.47	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab, Unit Below 200mm	5.54	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab, Unit Below 200mm	7.49	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	35.36	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	12.26	None	No Insulation	Carpet+Rubber Underlay 18mm
Glazed Common A	Concrete Slab, Unit Below 200mm	30.13	None	No Insulation	Ceramic Tiles 8mm



Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Entry	Plasterboard on Timber	Bulk Insulation R2.5	
Bath/Ldry	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Glazed Common A	Plasterboard on Timber	Bulk Insulation R2.5	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	6	Downlights - LED	150	Sealed
Entry	2	Downlights - LED	150	Sealed
Bath/Ldry	3	Downlights - LED	150	Sealed
Bath/Ldry	3	Exhaust Fans	150	Sealed
Kitchen/Living	15	Downlights - LED	150	Sealed
Kitchen/Living	15	Exhaust Fans	150	Sealed
Bedroom 2	5	Downlights - LED	150	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200
Bedroom 2	1	1200

Roof type

Construction Added insulation [R-value]		Solar absorptance Roof shade[colour]			
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	50	Medium		

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				



Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Lo	cation F	uel type	Minimum efficiency/ performance		Recommended capacity	
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		ibstitution e ranges upper limit	Assessec daily loac [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac	
No Data Available							

Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]	
No Data Available		



Explanatory notes

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Glossary

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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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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	see exposure categories below.
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 – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
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 features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
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.
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.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
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).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eq eaves and balconies)

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991846

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 10, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned*60.7Unconditioned*7.5Total68.1Garage0.0

Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflict:

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au</u>.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

47.0 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Aodelled	2.3	44.7
oad limits	N/A	N/A

Features determining load limits

Floor Type	N/A
(lowest conditioned area)	
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=FXVImRpwg. When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 10, 17-21 Wardell Road , Alstonville , NSW , 2477



About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



6.6 Star Rating as of 06 Oct 2023

			Constru	ation	HOUSE
Certificate check	Approva	I Stage	Stage		
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assess	Consen Survey	Builder	Consen Surveyo	Occupa
Genuine certificate check		•			
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check		·			
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof		-	-		
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)		-	-		
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

6.6 Star Rating as of 06 Oct 2023

9	÷.
HO	JSE

	Approva	l Stage	Construe Stage	ction	
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
	Asses	Conse Surve)	Builde	Conse Surve)	Occup
Additional NCC requirements for thermal performance (not inclu	ided in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Home	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the I	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m ²]	
Bedroom 1	Bedroom	13.17	
Entry	Daytime	6.25	
Bath/Ldry	Unconditioned	7.47	
Kitchen/Living	Kitchen/Living	29.76	
Bedroom 2	Bedroom	11.49	

Window and glazed door type and performance

Default windows*

Window ID	Window	Window Maximum SHGC*		Substitution tolerance ranges		
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	SHGC	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*
Bedroom 1	ALM-001-03 A	W1	1800	1810	Awning	10	E	No
Kitchen/Living	ALM-002-03 A	W4	2400	2410	Awning	45	W	No
Kitchen/Living	ALM-001-03 A	W3	800	1810	Awning	10	Ν	No
Kitchen/Living	ALM-001-03 A	W2	1200	2050	Awning	10	E	No
Bedroom 2	ALM-001-03 A	W5	1800	1810	Awning	10	W	No

Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
No Data Avail	able				



Custom roof windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
Window ID	Description	U-value*	SHGC" -	SHGC lower limit	SHGC upper limit
No Data Avai	lable				

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	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] Orientation	Outdoor shade	Diffuser
No Data Available						

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall ID	Wall type	Solar Wall s absorptance [colou	hade Bulk insulation r] [R-value]	Reflective wall wrap*
EW-1	Metal Clad Timber Stud Frame Direct Fix	0	Bulk Insulation R2.5	No
EW-2	Cavity Brick	0	Bulk Insulation R0.7	No

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	1500	Ν	100	No
Bedroom 1	EW-2	2700	3500	E	100	No
Bedroom 1	EW-2	2700	1900	S	100	No

* Refer to glossary. Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 10, 17-21 Wardell Road , Alstonville , NSW , 2477 0008991846 NatHERS Certificate

6.6 Star Rating as of 06 Oct 2023



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-2	2700	3845	W	3700	No
Kitchen/Living	EW-1	2700	8500	Ν	100	No
Kitchen/Living	EW-2	2700	3845	E	100	No
Bedroom 2	EW-1	2700	3500	W	100	Yes
Bedroom 2	EW-2	2700	2100	Ν	4000	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation	
IW-001	Single Skin Brick	41.85	No insulation	
IW-002	Cavity brick	21.06	No Insulation	

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab, Unit Below 150mm	13.17	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab, Unit Below 150mm	6.25	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab, Unit Below 150mm	7.47	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	29.76	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	11.49	None	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Entry	Plasterboard on Timber	Bulk Insulation R2.5	
Bath/Ldry	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	



Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Bedroom 1	6	Downlights - LED	150	Sealed	
Entry	2	Downlights - LED	150	Sealed	
Bath/Ldry	3	Downlights - LED	150	Sealed	
Bath/Ldry	3	Exhaust Fans	150	Sealed	
Kitchen/Living	13	Downlights - LED	150	Sealed	
Kitchen/Living	13	Exhaust Fans	150	Sealed	
Bedroom 2	5	Downlights - LED	150	Sealed	

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200
Bedroom 2	1	1200

Roof type

Construction	onstruction Added insulation [R-value]		e Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	50	Medium

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				

0008991846 NatHERS Certificate	6.6 Sta	r Rating as of 06	6 Oct 2023				HOUSE
Heating system							
Appliance/ system type	Lo	cation Fu	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		ibstitution e ranges upper limit	Assessed daily load [litres]
No Data Available						••	
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	cy/	Recomm capac	
No Data Available							
Onsite Renewable E	nergy Sch	edule					
System Type Orie	ntation		Syste	em Size O	r Generation	Capacity	

No Data Available

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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	see exposure categories below.
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 – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
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 features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
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.
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.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
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).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991754

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 11, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 44.8 Unconditioned* 7.1 Total 51.8 Garage 0.0 Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au</u>.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

D.J The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

28.2 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	1.1	27.1
Load limits	N/A	N/A

Features determining load limits

Floor Type	N/A
(lowest conditioned area)	DV/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=NxvSGVmWc . When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 11, 17-21 Wardell Road , Alstonville , NSW , 2477



About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



8.9 Star Rating as of 06 Oct 2023

····· · · · · · · · · · · · · · · · ·	Ì				HOUSE
Certificate check	I Stage	Construction Stage			
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Asses	Conse Surve)	Builde	Conse Survey	Occup
Genuine certificate check			•		
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls		•			
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)		-	-		
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

8.9 Star Rating as of 06 Oct 2023

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	Approva	I Stage	Construe Stage	ction	
Certificate check	lecked	thority/ ecked	sked	thority ecked	Other
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)	I	
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m ²]
Bedroom 1	Bedroom	12.51
Entry	Daytime	5.37
Bath/Ldry	Unconditioned	7.06
Kitchen/Living	Kitchen/Living	26.89

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description		3660	SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
WIND	Description	U-value*	3660	SHGC lower limit	SHGC upper limit		
No Data Avail	able						

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-03 A	W1	1800	1810	Awning	30	W	No
Bath/Ldry	ALM-001-03 A	W3	800	1210	Awning	90	E	No
Kitchen/Living	ALM-002-03 A	W2	2400	2410	Awning	45	W	Yes
Kitchen/Living	ALM-001-03 A	n/a	1200	1450	Awning	45	E	No
Kitchen/Living	ALM-001-03 A	n/a	2400	1000	Awning	90	E	No

Roof window* type and performance value

Default roof windows*

Window ID	Window	Window Maximum SHGC*		Substitution to	lerance ranges
willdow iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
No Data Avail	able				



Custom roof windows*

Window ID	Window	Maximum	SHCC*	Substitution to	lerance ranges
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Avai	lable				

Roof window* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Avai	ilable							

Skylight* type and performance

 Skylight ID
 Skylight description
 Skylight shaft reflectance

 No Data Available
 Volume
 Volum
 Volume
 Volume

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²]	Outdoor shade	Diffuser
No Data Available						

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3345	W	600	No
Bedroom 1	EW-1	2700	4145	S	600	No
Entry	EW-1	2700	1290	S	600	No
Bath/Ldry	EW-1	2700	3345	Е	600	No

0008991754 NatHERS Certificate

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Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]	
Bath/Ldry	EW-1	2700	2145	S	600	No	
Kitchen/Living	EW-1	2700	3845	W	600	No	
Kitchen/Living	EW-1	2700	3845	Е	1900	No	

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation	
IW-001	Single Skin Brick	28.08	No insulation	
IW-002	Cavity brick	0.00	No Insulation	

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 200mm	12.51	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab on Ground 200mm	5.37	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab on Ground 200mm	7.06	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 200mm	26.89	None	No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Entry	Plasterboard on Timber	Bulk Insulation R2.5	
Bath/Ldry	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Bedroom 1	5	Downlights - LED	150	Sealed	
Entry	1	Downlights - LED	150	Sealed	
Bath/Ldry	3	Downlights - LED	150	Sealed	
Bath/Ldry	3	Exhaust Fans	150	Sealed	

* Refer to glossary. Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 11, 17-21 Wardell Road , Alstonville , NSW , 2477

0008991754 NatHERS Certificate		8.9 Star Rating as of 06 Oct 2023			
Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Kitchen/Living	12	Downlights - LED	150	Sealed	
Kitchen/Living	12	Exhaust Fans	150	Sealed	

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200

Roof type

Construction Added insulation [R-value]		Solar absorptance Roof shade[colour]			
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	50	Medium		

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Lo	cation	Fuel type	eff	inimum ïciency/ formance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation	Fuel type	eff	inimum ïciency/ formance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency e /STC	Zone 3 STC	toleranc	Ibstitution e ranges	Assessed daily load
No Data Available		CER 2010	e /STC		lower limit	upper limit	[litres]

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8.9 Star Rating as of 06 Oct 2023



Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available			

Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load the inerate of animal drama visual visualized for heating and cooling, based on standard occupancy assumptions. Assessed floor area Assessed floor area in the design documents. Colling penetrations Confidence of the design documents. Colling penetrations Confidence of the design documents. Colling penetrations Confidence of the design documents. Confidence of the design document document document document document document documents. Confidence of the design document documen	AFRC	Australian Fenestration Rating Council
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. Geiling penetrations Earlures that require a penetration to the coiling, including downlights, verts, exhaust fans, range hoods, chimneys and flues. Conditional Constraint in the design documents. Constraint in the design documents. Conditional Constraint is expected to require heating and cooling based on standard occupancy assumptions. In some drown indows Windows listen is expected to require heating and cooling based on standard occupancy assumptions. In some drown indows Default windows Windows listen in NatHERS Software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. Default windows This is your homes rating without solar or batteries. Energy value The net cost to society including, but not limited to costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Exposure category – open terrain with no costructions e.g. flig razing land, occan-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – open terrain with numerous, closely spaced obstructions sore 10 me.g. cut yand industrial areas. Provisional value The refurct as spacing to the functional bading for the noticing, and alcohed Class '04 buildings and alcohed Class '04 buildings.		
Assessed hold area floor area in the design documents. Calling penetrations features that require a penetration to the celling, including downlights, wents, exhaust fans, range hoods, chimneys and flues. Excludes fittures attached to the celling, including downlights, wents, exhaust fans, range hoods, chimneys and flues. COP Coefficient of performance a core within a dwelling that is expected to require healing 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. Energy use The is our homes rating without solar or batteries. Energy use The is our homes rating without solar or batteries. Energy use The is our homes rating without solar or batteries. Energy use The is our homes rating without solar or batteries. Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ACE Housing Provisions Standard). Exposure category – exposed Enrain with numerous, closely spaced obstructions over 10 me g, city and inductarial areas. Exposure category – exposed Enrain w		
COP Coefficient of performance 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 Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input. Default windows Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input. Energy efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input. Energy efficiency ratio, sour homes rating without solar or batteries. Energy efficiency value The rel cost to society including, but not limited to, costs to the building user, the environment and energy networks (as these signity ventilation benefits in the modeling software and must not be modelied as a door when opening to a minimally very exposure category - exposed terrain with no obstructions se g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category - protected terrain with wo obstructions sele/with e.g. grassiand with few well scattered obstructions below 10m, farmland with actered shead, lightly vegetated bushland areas. Exposure category - protected terrain with no obstructions below tore is a swellar height in the noreal durations allow obstructions below 10m, farmland with excettered shead, lightly vegetated obstructions below 10m, farmland with excettered shead, lightly vegetated obstructions below 10m, fa	Assessed floor area	
Conditioned a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some dricrumstances 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. EER Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity. Energy value The net cost to society including, but not limited to costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Exposure category – exposed the net ABCB Housias 2 building. Exposure category – protected terrain with no obstructions at a similar height e.g. grasslands with fow well scattered obstructions below 10m, farmland with scattered obstructions at a similar height e.g. grasslands with fow obstructions at a similar height e.g. eaves, eaves, carendals, pergolas, carports, or overhangs or balconies from upper levels. Exposure category – protected terrain with numerous, closely spaced obstructions end to musing. Heavily vegetated bush holding in the horizontal plane, e.g. eaves, vernadhs, pergolas, carports, or overhangs or balconies from upper levels. NtCor locas the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software modelis NCC C Class 1, 2 whu	Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, 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.
Culture Control 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 input. EER Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input. Energy use This is your homes rating without solar or batteries. Energy use The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Exposure category - exposed Errain with no obstructions e.g. Ital grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category - protected terrain with numerous, closely spaced obstructions below flom e.g. suburban tousing, heavily vegetated bushland areas. Provisional Construction Code (NCC) Class 1. the NCC groups building in the horizontal plane, e.g. avasubran tousing, heavily vegetated bushland areas. Provisional value the new Code or operable (multimg and the bas 10 buildings or operable (multimg and the bas). Reposure category - protected terrain with numerous, closely spaced obstructions below flom e.g. suburban tousing, heavily vegetated bushland areas. Retrost nucleon Code (NCC) Cl	COP	Coefficient of performance
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Data in whore methods. EER Energy use This is your homes rating without solar or batteries. Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard). 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 Cast's 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 no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed do bstructions below 10m, familand with texposure category – popen Exposure category – popen terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas. Exposure category – suburban terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas. Exposure category – suburban terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas. Net zero home the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. An one that achieves a net zero energy value. ⁷ openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.	Custom windows	
LER input ^T Energy value This is your homes rating without solar or batteries. Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Entrance door these signify vertilation benefits in the modelling software and must not be modelled as a door when opening to a minimally vertilated corridor in a Class 2 building. Exposure category – exposure category – open 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 no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – protected terrain with numerous, closely spaced obstructions over 10 m.e.g. city and industrial areas. 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 1.2 or 4 buildings their function and use, and assigns a classification code. NatHERS software models NCC Class 1.2 or 4 buildings to the modelled case 10a buildings. Definitions can be found at www.abcb.gov au. Recommended capacity a home that achieves a net zero energy value*. Opening percentage the openability percenting the modelled. Acceptable provisional value or zones serviced. This is a recommendation and the final sele	Default windows	
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Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)	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).
	Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991788

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class' Floor/all Floors Type

Unit 12, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 44.7 Unconditioned* 7.0 Total 51.8 Garage 0.0

Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

Dean Gorman Name **Business name** Greenview Consulting Pty Ltd Email dean@greenview.net.au Phone 8544 1683 Accreditation No. DMN/13/1645 Assessor Accrediting Organisation Design Matters National **Declaration of interest** Declaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

NATIONWIDE

27.6 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling		
Modelled	0.3	27.2		
Load limits	N/A	N/A		

Features determining load limits

N/A
No
No
No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=HaONIGJMb . When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 12, 17-21 Wardell Road , Alstonville , NSW , 2477



About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



8.9 Star Rating as of 06 Oct 2023

····· ·· ·· ·· ·· ·· ·· ·· ·· ·· ·· ··	1				HOUSE
Certificate check	Approva	I Stage	Construe Stage		
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assess	Conser Survey	Builder	Conser Survey	Occupa
Genuine certificate check		•			
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check			*		
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls		-	-		
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



	Approva	I Stage	Construe Stage	ction	
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	ment)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m ²]
Bedroom 1	Bedroom	12.51
Entry	Daytime	5.32
Bath/Ldry	Unconditioned	7.05
Kitchen/Living	Kitchen/Living	26.89

Window and glazed door type and performance

Default windows*

Window ID	Window Maximum SHGC*		SHCC*	Substitution tolerance ranges		
	Description	U-value*		SHGC lower limit	SHGC upper limit	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window iD	Description	u U-value* SHGC		SHGC lower limit	SHGC upper limit	
No Data Avail	able					

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-03 A	n/a	1800	1810	Awning	30	W	No
Bath/Ldry	ALM-001-03 A	n/a	800	1210	Awning	90	E	No
Kitchen/Living	ALM-001-03 A	n/a	1200	1450	Awning	45	E	No
Kitchen/Living	ALM-001-03 A	n/a	2400	1000	Awning	90	E	No
Kitchen/Living	ALM-002-03 A	n/a	2400	2410	Awning	45	W	Yes

Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit		
No Data Avail	able						

* Refer to glossary. Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 12, 17-21 Wardell Road , Alstonville , NSW , 2477



Custom roof windows*

Window ID	Window	Maximum	SHCC*	Substitution to	lerance ranges
Window ID	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Avai	lable				

Roof window* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Avai	ilable							

Skylight* type and performance

 Skylight ID
 Skylight description
 Skylight shaft reflectance

 No Data Available
 Volume
 Volum
 Volume
 Volume

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²]	Outdoor shade	Diffuser
No Data Avail	able					

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3345	W	600	No
Bath/Ldry	EW-1	2700	3345	Е	600	No
Kitchen/Living	EW-1	2700	3845	Е	1900	No
Kitchen/Living	EW-1	2700	3845	W	600	No



Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IVV-001	Cavity brick	30.78	No Insulation
IW-002	Single Skin Brick	30.24	No insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 200mm	12.51	None	No Insulation	Carpet+Rubber Underlay 18mm
Entry	Concrete Slab on Ground 200mm	5.32	None	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Concrete Slab on Ground 200mm	7.05	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 200mm	26.89	None	No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Entry	Plasterboard on Timber	Bulk Insulation R2.5	
Bath/Ldry	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Entry	1	Downlights - LED	150	Sealed
Bath/Ldry	3	Downlights - LED	150	Sealed
Bath/Ldry	3	Exhaust Fans	150	Sealed
Kitchen/Living	12	Downlights - LED	150	Sealed
Kitchen/Living	12	Exhaust Fans	150	Sealed



Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptance	ce Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	50	Medium

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Loc	cation	Fuel type	effi	nimum ciency/ ormance	 nmended bacity
No Data Available						
Heating system						
Appliance/ system type	Loc	cation	Fuel type	effi	nimum ciency/ ormance	 nmended bacity
No Data Available						
Hot water system						
Appliance/ system type	Fuel type	Hot Water	Minimum efficiency	Zone 3 STC -	Zone 3 Sub tolerance	Assesse daily load

Appliance/ system type	Fuel type	Hot Water	Minimum efficiency	Zone 3 STC		bstitution e ranges	Assessed daily load
		CER Zone	/STC	510	lower limit	upper limit	[litres]
No Data Available							

0008991788 NatHERS Certificate	8.9 Star Rating as of 06 Oct 2023		HOUSE
Pool/spa equipment			
Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available			
Onsite Renewable Ene	rgy Schedule		

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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	see exposure categories below.
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 – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
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 features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
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.
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.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
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).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0008991804

Generated on 06 Oct 2023 using BERS Pro v5.1.5 (3.22)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 13, 17-21 Wardell Road, Alstonville , NSW , 2477 Lot 6-8 DP 35468 2 G of 1 floors New Home

Plans

Main plan Prepared by 2022.033 DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 44.8 Unconditioned* 7.1 Total 51.8 Garage 0.0 Exposure type Suburban NatHERS climate zone 10 Brisbane



Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

28.3 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	0.5	27.7
Load limits	N/A	N/A

Features determining load limits

Floor Type	N/A
(lowest conditioned area)	IN/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=HrcyvjudZ . When using either link, ensure you are visiting hstar.com.au





About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG – Concrete Slab on Ground SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No NA Not

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



8.8 Star Rating as of 06 Oct 2023

					HOUSE
Certificate check	Approva	I Stage	Construe Stage	ction	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Asse	Conse Surve	Build	Conse Surve	Occul
Genuine certificate check		•	•		•
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



	Approva	al Stage	Constru Stage	ction		
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other	
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)		
Thermal bridging						
Does the dwelling meet the NCC requirement for thermal bridging?						
Insulation installation method						
Has the insulation been installed according to the NCC requirements?						
Building sealing			-	-		
Does the dwelling meet the NCC requirements for Building Sealing?						
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asse	ssment is i	not conduc	ted)	
Appliances						
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?						
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?						
Additional NCC Requirements for Services (not included in the NatHERS assessment)						
Does the lighting meet the artificial lighting requirements specified in the NCC?						
Does the hot water system meet the additional requirements specified in the NCC?						
Provisional values* check						
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?						
Other NCC requirements						

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

Room	Zone Type	Area [m ²]
Bedroom 1	Bedroom	12.51
Entry	Daytime	5.37
Bath/Ldry	Unconditioned	7.06
Kitchen/Living	Kitchen/Living	26.89

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
willdow ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Avail	able					

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-03 A	W1	1800	1810	Awning	30	W	No
Bath/Ldry	ALM-001-03 A	W3	800	1210	Awning	90	E	No
Kitchen/Living	ALM-002-03 A	W2	2400	2410	Awning	45	W	Yes
Kitchen/Living	ALM-001-01 A	W4	600	1810	Awning	90	Ν	No
Kitchen/Living	ALM-001-03 A	W5	1200	1450	Awning	45	E	No
Kitchen/Living	ALM-001-03 A	n/a	2400	1000	Awning	90	E	No



Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Avai	lable					
Custom roof v	vindows*					
Window ID	Window	Maximum	81100*	Substitution tolerance ranges		
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Avai	lable					
	dow* 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	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²] Orientation	Outdoor shade	Diffuser
No Data Available						

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3345	W	600	No
Bath/Ldry	EW-1	2700	3345	E	600	No
Kitchen/Living	EW-1	2700	3845	W	600	No
Kitchen/Living	EW-1	2700	7800	Ν	600	No
Kitchen/Living	EW-1	2700	3845	E	1900	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Single Skin Brick	28.08	No insulation
IW-002	Cavity brick	9.72	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground	12.51	None	No	Carpet+Rubber Underlay
Dedroom 1	200mm	12.01	None	Insulation	18mm
Entry	Concrete Slab on Ground	5.37	None	No	Ceramic Tiles 8mm
Linuy	200mm	5.57	NONE	Insulation	
Bath/Ldry	Concrete Slab on Ground	7.06	None	No	Ceramic Tiles 8mm
Datil/Luly	200mm	7.00	NONE	Insulation	
Kitchen/Living	Concrete Slab on Ground	26.89	None	No	Ceramic Tiles 8mm
Ritorion/Living	200mm	20.09	NULLE	Insulation	

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Entry	Plasterboard on Timber	Bulk Insulation R2.5	
Bath/Ldry	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	



Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Bedroom 1	5	Downlights - LED	150	Sealed	
Entry	1	Downlights - LED	150	Sealed	
Bath/Ldry	3	Downlights - LED	150	Sealed	
Bath/Ldry	3	Exhaust Fans	150	Sealed	
Kitchen/Living	12	Downlights - LED	150	Sealed	
Kitchen/Living	12	Exhaust Fans	150	Sealed	

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Kitchen/Living	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptance Roof shade[colour]		
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	50	Medium	

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				

0008991804 NatHERS Certificate	8.8 Sta	r Rating as of 06	6 Oct 2023				NATION VID HOUSE
Heating system							
Appliance/ system type	Location Fuel type		Minimum efficiency/ performance		Recommended capacity		
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		ibstitution e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Minimum Fuel type efficiency/ performance		;y/	Recommended capacity		
No Data Available							
Onsite Renewable E	nergy Sch	edule					
System Type Orie	ntation System Size Or Generation Capacity						

 System Type
 Orient

 No Data Available
 Image: Comparison of the system of the s

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value^{*}.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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	see exposure categories below.
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 – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	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.
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
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 features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
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.
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.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
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).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)