	NCC 2022 NatHERS Ther	mal Performance Specification - R	Revesby
		External Walls	
Wall Type	Insulation	Colour	Comments
Cavity Brick	Reflective Foil	Light - SA < 0.475	Throughout, as per elevations
	SA -	Solar Absorptance	
		Internal Walls	
Wall Type	Insulation		Comments
Plasterboard stud (Timber studs)	None		Internally inside units
Cavity Brick	None	Р	arty walls between units
Cavity Brick	None	Share	ed walls with lobby/stairs/lift
		Floors	
Floor Type	Insulation		Comments
Concrete slab on ground	None		Ground floor
Concrete	None	All un	its with adjoining unit below
		Ceilings	
Ceiling Type	Insulation		Comments
Plasterboard	None		Unit above
Plasterboard	R4.0		Roof above
Insulation loss due to downlights has not b	peen modelled in this assessment	t. A sealed exhaust fan has been ind	cluded in every kitchen, bathroom, laundry and ensuite.
		Roof	
Roof Type	Insulation	Colour	Comments
Metal	R1.3 foil-faced blanket	Light - SA < 0.475	Throughout (unventilated)
	SA -	Solar Absorptance	
	- 1 1	Glazing	
Opening type	U-Value	SHGC	Glazing & Frame Type
Sliding + Fixed (All Units except below)	5.4	0.58	e.g. Single glazed Low-e clear Aluminium frame
Awning (All Units except below)	5.4	0.49	e.g. Single glazed Low-e clear Aluminium frame
Sliding + Fixed (Unit 9)	4.8	0.59	e.g. Single glazed Low-e clear Aluminium frame
Awning (Unit 9)	4.8	0.51	e.g. Single glazed Low-e clear Aluminium frame
Sliding + Fixed (Units 17 & 19)	4.3	0.53	e.g. Single glazed Low-e clear Aluminium frame
Awning (Units 17 & 19)	4.3	0.47	e.g. Single glazed Low-e clear Aluminium frame
U and SHGC values are based on the AFR	-	ystems to be installed must have an ve specified values.	n equal or lower U value and a SHGC value \pm 10% of the
		Skylights	
Skylight Type	Fr	ame Type	Comments
Fixed		and aluminium	Velux Single glazed tint
		Ceiling fan	
Size		Location	Comments
1200mm in diameter	Li	ving areas	Throughout

Certificate Prepared	ву			
T greenview	Greenview Consulting Pty Ltd ABN: 32600067338			
CONSULTING	Email: dean@greenview.net.au Phone: 0404 649 762			

Nationwide House Energy Rating Scheme[®] **Class 2 Summary** NatHERS[®] Certificate No. 0009819390

Generated on 25 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NatHERS Climate Zone

29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 56 Mascot (Sydney Airport)



Accredited assessor

Name	Dean Gorman
Business name	Greenview Consulting Pty Ltd
Email	dean@greenview.net.au
Phone	8544 1683
Accreditation No.	DMN/13/1645
Assessor Accrediting Or	ganisation

Design Matters National

Verification

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





R

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	14.1	4.9
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 dwellinas

Summary of all dwellings

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
0009819061	1	13.9 (N/A)	1.7 (N/A)	15.6	8.6	0
0009819103	2	0.1 (N/A)	1.3 (N/A)	1.4	10	0
2 7 8 8 8 8						

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 25 Oct 2024 using BERS Pro v5.2.3 (3.23) for 29-35 Lochinvar Road , Revesby , NSW , 2212



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/m²/p.a.]	Total load [MJ/m²/p.a.]	Star Rating	Whole of Home Rating
<u>0009819137</u>	3	0.1 (N/A)	1.4 (N/A)	1.5	10	0
0009819160	4	15.4 (N/A)	1.2 (N/A)	16.6	8.4	0
<u>0009819194</u>	5	5.6 (N/A)	5.7 (N/A)	11.2	9.1	0
0009819228	6	10.2 (N/A)	2.3 (N/A)	12.5	8.9	0
0009819236	7	24.7 (N/A)	3.2 (N/A)	27.8	7.2	0
0009819053	8	26.9 (N/A)	1.3 (N/A)	28.2	7.2	0
0009819087	9	29.6 (N/A)	1.6 (N/A)	31.3	6.8	0
<u>0009819111</u>	10	5.2 (N/A)	6.4 (N/A)	11.6	9.1	0
0009819145	11	1.4 (N/A)	6.1 (N/A)	7.5	9.8	0
<u>0009819178</u>	12	1.6 (N/A)	7.4 (N/A)	9.1	9.4	0
0009819202	13	24.9 (N/A)	4.0 (N/A)	28.9	7.1	0
0009819210	14	10.3 (N/A)	5.4 (N/A)	15.7	8.5	0
0009819046	15	12.7 (N/A)	8.0 (N/A)	20.6	8	0
0009819079	16	9.5 (N/A)	7.7 (N/A)	17.2	8.4	0
0009819095-01	17	29.5 (N/A)	6.2 (N/A)	35.7	6.3	0
0009819129	18	24.4 (N/A)	10.1 (N/A)	34.4	6.4	0
0009819152-01	19	22.8 (N/A)	12.0 (N/A)	34.7	6.4	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

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



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, 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

Nationwide House Energy Rating Scheme[®] NatHERS® Certificate No. 0009819061

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 1, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 51.8 Unconditioned* 8.7 Total 60.4 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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

15.6 MJ/m²

The more stars

the more energy efficient

NATIONWID

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	13.9	1.7
Load limits	N/A	N/A

Features determining load limits

Floor Type	AUA
(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=FBxPvLMYI 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
- 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



8.6 Star Rating as of 16 Oct 2024

			Comotinu	-	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	Consen Surveyo	Builder	Consen 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	Construction Stage			
Certificate check	hecked	uthority/ hecked	ked	uthority hecked	Other	
Continued	Assessor cho	Consent Auth Surveyor che	Builder checked	Consent Auth Surveyor che	Occupancy/C	
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	ERS asse	ssment)	1	
Thermal bridging						

Insulation installation method

Has the insulation been installed according to the NCC requirements?

Does the dwelling meet the NCC requirement for thermal bridging?

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 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]
Lobby	Glazed Common Area	15.05
Kitchen/Living	Kitchen/Living	35
Bedroom 1	Bedroom	16.77
Bath/Laundry	Unconditioned	8.68

Window and glazed door type and performance

Default windows*

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

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution to	Substitution tolerance ranges		
willdow 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*
Lobby	ALM-001-01 A	W26	2400	2100	Casement	40	E	No
Kitchen/Living	ALM-002-03 A	W24	2400	2400	Sliding	45	Ν	No
Bedroom 1	ALM-001-03 A	W23	1400	1400	Awning	90	Ν	No
Bedroom 1	ALM-001-03 A	W22	800	2200	Awning	45	E	No
Bath/Laundry	ALM-001-03 A	W21	800	1200	Awning	90	E	No

Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
willdow iD	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
No Data Avail	able				



Custom roof windows*

Window ID	Window	Maximum	SUCC*	Substitution to	erance 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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Lobby	EW-1	2700	2945	Е	1600	Yes
Kitchen/Living	EW-1	2700	3900	Ν	3200	Yes
Bedroom 1	EW-1	2700	900	W	0	No
Bedroom 1	EW-1	2700	3600	Ν	600	Yes

0009819061 NatHERS Certificate

8.6 Star Rating as of 16 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]	
Bedroom 1	EW-1	2700	4700	Е	200	No	_
Bath/Laundry	EW-1	2700	4000	Е	200	No	_
Bath/Laundry	EW-1	2700	2200	S	11000	No	_

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	43.47	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	20.52	No insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Lobby	Concrete Slab on Ground 200mm	15.21	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 200mm	35.00	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 200mm	16.77	None	No Insulation	Carpet 10mm
Bath/Laundry	Concrete Slab on Ground 200mm	8.68	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]
Lobby	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Laundry	Concrete, Plasterboard with Timber Frame	No insulation	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed



Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
None Present		0.00	

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 iciency/ formance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation	Fuel type	eff	inimum iciency/ formance		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			HOUS
Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
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.

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.

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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
	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.
	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.
	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 Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
<u></u>	This is your homes rating without solar or batteries.
Lifergy 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).
Elitrance 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.
	see exposure categories below.
	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).
	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.
Horizontal shaung leature	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.
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.
	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.
¥	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.
3103	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)
I hermal 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.
	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).
	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. 0009819103

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 2, 29-35 Lochinvar Road, Revesby , NSW , 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 60.5 Unconditioned* 0.0 Total 60.5 Garage 0.0 Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



Accredited assessor

 Name
 Dean Gorman

 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 <u>www.abcb.gov.au.</u>

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



NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars

the more energy efficient

1.4 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	0.1	1.3
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=bLOcVJOKs . When using either link, ensure you are visiting hstar.com.au





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 16 Oct 2024

······································					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.	Assesso	Consent Surveyo	Builder o	Consent Surveyo	Occupar
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					



	Approv	al Stage	Construction Stage			
Certificate check	ecked	uthority/ thecked	ked	uthority hecked	ther	
Continued	Assessor ch	Consent Auti Surveyor che	Builder checked	Consent Aut Surveyor che	Occupancy/C	
Additional NCC requirements for thermal performance (not	t included in	the NatHL	ERS asse	essment)	ñ	
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	assessr	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]
Kitchen/Living	Kitchen/Living	34.53
Bedroom 1	Bedroom	17.13
Bath/Laundry	Daytime	8.85

Window and glazed door type and performance

Default windows*

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

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
	Description	U-value*	3160	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*
Kitchen/Living	ALM-002-03 A	W26	2400	2400	Sliding	45	Ν	No
Bedroom 1	ALM-001-03 A	W2	1400	1400	Awning	90	Ν	No

Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
	Description	U-value*	31160	SHGC lower limit	SHGC upper limit		
No Data Availa	able						

Custom roof windows*

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

10 Star Rating as of 16 Oct 2024



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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	3800	Ν	3100	Yes
Bedroom 1	EW-1	2850	900	W	19600	No
Bedroom 1	EW-1	2700	3600	Ν	0	Yes
Bedroom 1	EW-1	2700	900	E	7800	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	41.04	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	20.25	No insulation

Wall ID Wall type Area [m²] **Bulk insulation**

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering	
Kitchen/Living	Concrete Slab on Ground	34.53	None	No	Ceramic Tiles 8mm	
Ritchen/Living	200mm	54.55	NOTE	Insulation		
Bedroom 1	Concrete Slab on Ground	17.13	None	No	Carpet 10mm	
	200mm	17.15		Insulation	Carper Tomm	
Bath/Laundry	Concrete Slab on Ground	8.85	None	No	Ceramic Tiles 8mm	
Datii/Lauriury	200mm	0.00		Insulation		

Ceiling type

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

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed

Ceiling fans

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

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
None Present		0.00	



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	effi	nimum ciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	effi	nimum ciency/ 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	;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 on the design documents. Ceiling penetrations [Earlurs Bhat require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chinneys and flues. The tenting and cooling ducts. COP Coefficient O performance Conditioned a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some orcumatines within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some orcumatines within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some orcumatines within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some orcumatines within a dwelling without solar or batteries. ERR Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity in the secoling withist of a positiv in building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Entrance door The sis your homes rating without solar or batteries. Exposure category – popenties Caleporties based on the data deporties based. Exposure category – popenties Earport Provisions Standard). Exposure category – popenties. Earport Provisions Standard). Earpos	AFRC	Australian Fenestration Rating Council
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Culture 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 input. ERR Energy Efficiency Ratio, measure of how much ocoling can be achieved by an air conditioner for a single KWh of electricity input. 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). Entrance door these signify ventilation beeneffs in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building. Exposure category – exposed terrain with no obstructions e.g. fall grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – protected terrain with numerous, closely spaced obstructions below 10m e.g. etaya in diadital areas. Exposure category – protected terrain with numerous, closely spaced obstructions due on the negolas, caports, or overhangs or balconies from upper levels. Noticonal Construction Code (NCC) Class 1. the NCC groups building in the horizontal plane, e.g. and ssignar a classification code. NatHERS software models NCC Class 1. Opening percentage the bound twww.	COP	Coefficient of performance
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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 dovice 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 of 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		
Window chading device Optimized 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. 0009819137

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 3, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 60.9 Unconditioned* 0.0 Total 60.9 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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

NATIONWIDE

The more stars

the more energy efficient

1.5 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	0.1	1.4
Load limits	N/A	N/A

Features determining load limits

Floor Type	NUA
(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=UgFtwhsCx When using either link, ensure you are visiting hstar.com.au





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 16 Oct 2024

Certificate check	Approva	l Stage	Construe Stage	ction	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.	Asses	Conse Surve	Builde	Conse Surve	Occul
Genuine certificate check	1	ſı	Т	,r	
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					



	Approv	Construction Stage			
Certificate check	hecked	uthority/ thecked	cked	uthority hecked	Other
Continued	Assessor ch	Consent Auf Surveyor ch	Builder chec	Consent Au Surveyor ch	Occupancy/
Additional NCC requirements for thermal performance (not in	cluded in	the NatHL	ERS asse	essment)	ñ
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	assessr	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]
Kitchen/Living	Kitchen/Living	35.44
Bedroom 1	Bedroom	16.41
Bath/Laundry	Daytime	9.07

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-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
Window ID	Description U-value*		3160	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*
Kitchen/Living	ALM-002-03 A	W26	2400	2400	Sliding	45	Ν	No
Bedroom 1	ALM-001-03 A	W2	1400	1400	Awning	90	Ν	No

Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
window ID	Description	escription U-value*		SHGC lower limit	SHGC upper limit
No Data Availa	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 Available					

10 Star Rating as of 16 Oct 2024



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 [m²] 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 absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Cavity Brick	0.30		Foil, Reflective both sides	Yes
EW-2	Cavity Brick	0.30		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]
Kitchen/Living	EW-1	2700	3900	Ν	3200	Yes
Bedroom 1	EW-1	2850	800	W	11925	No
Bedroom 1	EW-1	2700	3600	Ν	0	Yes
Bedroom 1	EW-1	2700	900	Е	15500	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	41.04	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering	
Kitchon/Living	Concrete Slab on Ground	35.44	None	No	Ceramic Tiles 8mm	
Kitchen/Living	200mm	55.44	NOTE	Insulation		
Bedroom 1	Concrete Slab on Ground	16.41	None	No	Carnot 10mm	
	200mm	10.41	None	Insulation	Carpet 10mm	
Bath/Laundry	Concrete Slab on Ground	9.07	Nene	No	Ceramic Tiles 8mm	
Datii/Launury	200mm	9.07	None	Insulation	Ceramic mes omm	

Ceiling type

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

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
None Present		0.00	



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	effi	nimum iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	effi	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	;y/	Recomm capad	
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) 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. 0009819160

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 4, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 60.2 Unconditioned* 0.0 60.2 Total Garage 0.0

Exposure type Suburban NatHERS climate zone

56 Mascot (Sydney Airport)



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

NATIONWID

16.6 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	15.4	1.2
Load limits	N/A	N/A

Features determining load limits

Floor Type	NUA
(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=aSeysLFyu 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


8.4 Star Rating as of 16 Oct 2024

			Comotinu	ation .	HOUSE
Certificate check	Approva	I Stage	Constru Stage	cuon	
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					



	Approv	al 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 in	cluded in t	the NatHE	ERS 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	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		<u>.</u>		

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]
Kitchen/Living	Kitchen/Living	34.61
Bedroom 1	Bedroom	16.87
Bath/Laundry	Daytime	8.71
Lobby	Glazed Common Area	37.94

Window and glazed door type and performance

Default windows*

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

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
willdow 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*
Kitchen/Living	ALM-002-03 A	W26	2400	2400	Sliding	45	Ν	No
Bedroom 1	ALM-001-03 A	W2	1500	1450	Awning	90	Ν	No
Lobby	ALM-001-01 A	W27	2400	2600	Awning	30	S	No
Lobby	ALM-001-01 A	W28	2400	2150	Casement	45	S	No
Lobby	ALM-001-01 A	W29	2700	2950	Casement	60	Ν	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	SHCC*	Substitution to	erance 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
 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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	7645	W	6600	No
Kitchen/Living	EW-1	2700	3900	Ν	3300	Yes
Bedroom 1	EW-1	2850	900	W	4150	No
Bedroom 1	EW-1	2700	3700	Ν	0	Yes

0009819160 NatHERS Certificate

8.4 Star Rating as of 16 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	800	Е	0	No
Lobby	EW-1	2850	5900	S	0	Yes
Lobby	EW-1	2850	3000	Ν	6050	Yes

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	20.79	No insulation
IW-002	Cavity brick	68.93	No Insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab on Ground 200mm	34.61	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 200mm	16.87	None	No Insulation	Carpet 10mm
Bath/Laundry	Concrete Slab on Ground 200mm	8.71	None	No Insulation	Ceramic Tiles 8mm
Lobby	Concrete Slab on Ground 200mm	37.94	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]
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Laundry	Concrete, Plasterboard with Timber Frame	No insulation	
Lobby	Concrete, Plasterboard with Timber Frame	No insulation	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Kitchen/Living	1	Exhaust Fans	300	Sealed	
Bath/Laundry	1	Exhaust Fans	300	Sealed	



Ceiling fans

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

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
None Present		0.00	

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	eff	inimum ficiency/ formance		mended acity
No Data Available							
Heating system							
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	Minimum efficiency	Zone 3 STC		ubstitution e ranges	Assessed daily load
		CER Zone	/STC	010	lower limit	upper limit	[litres]

Pool/spa equipment			
Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
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.

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 the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
he floor 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.
eatures that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. xxcludes 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
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.
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.
rovides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies rom upper levels.
ne 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.
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
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.
an be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides nsulative properties.
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.
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.
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.
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)
re materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, out 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
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.
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).
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. 0009819194

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 5, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 80.0 Unconditioned* 0.0 80.0 Total Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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

NCC Requirements

NCC provisions Strate/Territory variation Declaration completed: no conflicts

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

11.2 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	5.6	5.7
Load limits	N/A	N/A

Features determining load limits

Floor Type	NUA
(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=AuvMJCuVA. When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 5, 29-35 Lochinvar Road , Revesby , NSW , 2212



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





9.1 Star Rating as of 16 Oct 2024

Certificate check	Approva	I Stage	Construe Stage	ction	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.	Assesse	Consen Surveyo	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					

0009819194 NatHERS Certificate9.1 Star Rating as of 16 Oct 2024					HOUSE
	Approval Stage			ction	
Certificate check	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
	Ass	Col	Bui	Col	Ö
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	S assessr	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	ñ	ň	1	ñ.	
Note: This Certificate only covers the energy efficiency requirements in the NCC. Addi but are not limited to: condensation, structural and fire safety requirements and any st requirements.					

Additional notes



Room schedule

Room	Zone Type	Area [m ²]
Kitchen/Living	Kitchen/Living	37.88
Bedroom 2	Bedroom	17
Bath/Laundry	Daytime	8.16
Bedroom 1	Bedroom	16.91
Lobby	Glazed Common Area	37.92

Window and glazed door type and performance

Default windows*

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

Custom windows*

Window ID	Window	indow Maximum	SHGC*	Substitution tolerance ranges		
willdow 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*
Kitchen/Living	ALM-002-03 A	n/a	2400	2400	Sliding	45	NW	No
Bedroom 2	ALM-001-03 A	n/a	1400	1400	Awning	90	NW	No
Bedroom 1	ALM-001-03 A	n/a	1400	1400	Awning	90	NW	No
Lobby	ALM-001-01 A	n/a	2400	950	Casement	90	SE	No
Lobby	ALM-002-01 A	n/a	2400	3650	Fixed	00	SE	No

Roof window* type and performance value

Default roof windows*

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



Custom roof windows*

Window ID	Window	Maximum	SHGC* -	Substitution tolerance ranges		
	Description	scription U-value*		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]	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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	4101	NW	3076	Yes
Bedroom 2	EW-1	2700	1131	SW	7920	No
Bedroom 2	EW-1	2700	3677	NW	0	Yes
Bedroom 2	EW-1	2700	283	NE	12445	No

0009819194 NatHERS Certificate

9.1 Star Rating as of 16 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]	
Bedroom 1	EW-1	2700	3536	NW	0	Yes	_
Bedroom 1	EW-1	2700	283	SW	15698	No	_
Lobby	EW-1	2700	11031	SE	0	Yes	_

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	32.07	No insulation
IW-002	Cavity brick	97.37	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	37.88	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	17.00	None	No Insulation	Carpet 10mm
Bath/Laundry	Concrete Slab, Unit Below 200mm	8.16	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	16.91	None	No Insulation	Carpet 10mm
Lobby	Concrete Slab, Unit Below 200mm	37.92	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]
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Laundry	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Lobby	Concrete, Plasterboard with Timber Frame	No insulation	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed

* Refer to glossary. Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 5, 29-35 Lochinvar Road , Revesby , NSW , 2212

Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 2	1	900
Bedroom 1	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
None Present		0.00	

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	Minimum efficiency/ performance			Recommended capacity		
No Data Available									
Heating system									
Appliance/ system type	Lo	cation	Fuel type	Minimum efficiency/ performance			Recommended capacity		
No Data Available				•					
Hot water system									
Appliance/ system type	Fuel type	Hot Water	Minimum efficiency	Zone 3 STC		ibstitution e ranges	Assessed daily load		
		CER Zone	e /STC	310	lower limit	upper limit	[litres]		
No Data Available									

0009819194 NatHERS Certificate	9.1 Star Rating as of 16 Oct 2	024	HOUSE
Pool/spa equipment			
Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available			
Onsite Renewable En	ergy Schedule		
System Type Orien	tation	System Size Or Generati	ion 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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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
	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.
	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.
	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 Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
<u></u>	This is your homes rating without solar or batteries.
Lifergy 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).
Elitrance 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.
	see exposure categories below.
	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).
	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.
Horizontal shaung leature	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.
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.
	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.
¥	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.
3103	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)
I hermal 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.
	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).
	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. 0009819228

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 6, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 49.5 Unconditioned* 8.2 Total 57 7 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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

12.5 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	10.2	2.3
Load limits	N/A	N/A

Features determining load limits

Floor Type	AL/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=rIMEXSfHI When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 6, 29-35 Lochinvar Road , Revesby , NSW , 2212



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

No Whole of Home performance assessment conducted for this certificate

Cost





8.9 Star Rating as of 16 Oct 2024

······································			Comotinu		HOUSE	
Certificate check	Approva	I Stage	Construe Stage	cuon		
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 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						

100	
-0	-
HOUS	Ë,

0009819228 NatHERS Certificate 8.9 Star Rating as o	f 16 Oct 2024					HOUSE
			l Stage	Construction Stage		
Certificate check		Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal perform	mance (not inclu	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging						
Does the dwelling meet the NCC requirement for thermal bridgin	g?					
Insulation installation method						
Has the insulation been installed according to the NCC requirem	ents?					
Building sealing						
Does the dwelling meet the NCC requirements for Building Seali	ng?					
Whole of Home performance check (not applicable	if a Whole of Hom	e performa	ance asses	ssment is i	not conduc	ted)
Appliances						
Does the cooling appliance/s type, location and efficiency/perform NatHERS-stamped plans or as installed match the location and in efficiency/performance requirements shown in the Appliance sch Certificate?	ninimum					
Does the heating appliance/s type, location and efficiency/perfor	nance 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]
Kitchen/Living	Kitchen/Living	32.48
Bedroom 1	oom 1 Bedroom	
Bath/Laundry	Unconditioned	8.16
Lobby	Glazed Common Area	22.12

Window and glazed door type and performance

Default windows*

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

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
willdow iD	Description	U-value*	3660	SHGC lower limit SHGC upp		SHGC* SHGC lower limit SHGC uppe	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*
Kitchen/Living	ALM-002-03 A	n/a	2400	2400	Sliding	45	NW	No
Bedroom 1	ALM-001-03 A	n/a	800	2100	Awning	45	SW	No
Bedroom 1	ALM-001-03 A	n/a	1500	1400	Awning	90	NW	No
Bath/Laundry	ALM-001-03 A	n/a	800	1200	Awning	90	SW	No
Lobby	ALM-002-01 A	n/a	2100	2150	Fixed	00	SW	Yes

Roof window* type and performance value

Default roof windows*

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



Custom roof windows*

Window ID	Window	Maximum	SHGC*	Substitution to	erance 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
 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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	3818	NW	3147	Yes
Bedroom 1	EW-1	2700	4667	SW	0	No
Bedroom 1	EW-1	2700	3677	NW	0	Yes
Bedroom 1	EW-1	2700	1131	NE	3748	No

0009819228 NatHERS Certificate

8.9 Star Rating as of 16 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bath/Laundry	EW-1	2700	3763	SW	0	No
Lobby	EW-1	2700	3056	SW	0	Yes

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	48.88	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	19.47	No insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab on Ground 200mm	32.63	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 200mm	17.02	None	No Insulation	Carpet 10mm
Bath/Laundry	Concrete Slab on Ground 200mm	8.16	None	No Insulation	Ceramic Tiles 8mm
Lobby	Concrete Slab on Ground 200mm	22.12	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]
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Laundry	Concrete, Plasterboard with Timber Frame	No insulation	
Lobby	Concrete, Plasterboard with Timber Frame	No insulation	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Kitchen/Living	1	Exhaust Fans	300	Sealed	
Bath/Laundry	1	Exhaust Fans	300	Sealed	



Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
None Present		0.00	

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 iciency/ formance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation	Fuel type	eff	inimum iciency/ formance		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							

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

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



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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

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 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. 0009819236

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 7, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 742 Unconditioned* 10.2 Total 84.5 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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.

The more stars the more energy efficient

NATIONWIDE

27.8 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
Modelled	24.7	3.2
Load limits	N/A	N/A

Features determining load limits

Floor Type	AL/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=BiOJQEcYB. When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 7, 29-35 Lochinvar Road , Revesby , NSW , 2212



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 16 Oct 2024

Certificate check	Certificate check Approval Stage		Construe Stage	ction	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.	Assess	Consen Surveyo	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)		1	1			
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						

0009819236 NatHERS Certificate 7.2 Star Rating as of 16 Oct 2024			1		HOUSE
	Approva	I Stage	Construction Stage		
Certificate check	cked	ority/ cked	ed	ority cked	ther
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 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	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]
Lobby	Glazed Common Area	24.91
Entry	Daytime	11.06
Kitchen/Living	Kitchen/Living	34.21
Bedroom 1	Bedroom	16.02
Bath/Laundry	Unconditioned	10.24
Bedroom 2	Bedroom	12.96

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 to	lerance ranges
	Description	U-value*	3160	SHGC lower limit SHGC upper lin	
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*
Lobby	ALM-002-01 A	n/a	2400	1650	Fixed	00	SW	Yes
Kitchen/Living	ALM-001-03 A	n/a	850	2100	Awning	45	NE	No
Kitchen/Living	ALM-002-03 A	n/a	2400	2400	Sliding	45	SE	No
Bedroom 1	ALM-001-03 A	n/a	850	2100	Awning	10	SW	No
Bedroom 1	ALM-001-03 A	n/a	1400	1600	Awning	10	NW	No
Bath/Laundry	ALM-001-03 A	n/a	850	1200	Awning	90	SE	No
Bedroom 2	ALM-001-03 A	n/a	1400	1600	Awning	10	SE	No



Roof window* type and performance value

Default roof windows*

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

Custom roof windows*

Window ID	Window	Maximum		Substitution tolerance ranges		
Window ID	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
VEL-012-01 W	VEL-012-01 W VELUX FCM - Fixed Curb Mount Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	4.0	0.27	0.26	0.28	

Roof window* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Kitchen/Living	VEL-012-01 W	S1	0	1300	1000	S	Yes	Yes
Kitchen/Living	VEL-012-01 W	S2	0	1300	1000	S	Yes	Yes

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 %

No Data Available

Orientation



External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Lobby	EW-1	2700	2773	SW	35	Yes
Entry	EW-1	2700	1414	SE	247	No
Kitchen/Living	EW-1	2700	4612	NE	141	No
Kitchen/Living	EW-1	2700	4101	SE	3995	No
Bedroom 1	EW-1	2700	4455	SW	283	No
Bedroom 1	EW-1	2700	3890	NW	566	No
Bath/Laundry	EW-1	2700	3680	SE	247	No
Bath/Laundry	EW-1	2700	2617	SW	230	No
Bedroom 2	EW-1	2700	3394	NE	4207	No
Bedroom 2	EW-1	2700	3818	SE	495	No
Bedroom 2	EW-1	2700	1063	SW	247	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	37.80	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	52.13	No insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Lobby	Concrete Slab on Ground 200mm	25.13	None	No Insulation	Ceramic Tiles 8mm
Entry	Concrete Slab on Ground 200mm	11.06	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 200mm	34.21	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 200mm	16.02	None	No Insulation	Carpet 10mm

0009819236 NatHERS Certificate



Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering	
Bath/Laundry	Concrete Slab on Ground 200mm	10.24	None	No Insulation	Ceramic Tiles 8mm	
Bedroom 2	Concrete Slab on Ground 200mm	12.96	None	No Insulation	Carpet 10mm	

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Lobby	Concrete, Plasterboard with Timber Frame	No insulation	
Entry	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Laundry	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
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900
Bedroom 2	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
None Present		0.00	


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	effi	nimum ciency/ ormance	Recommended capacity	
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	effi	nimum ciency/ ormance	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 t		Fuel type		Minimur 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.

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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. Celling penetrations Excludes flutures attached to the celling, including downlights, vents, exhaust fans, range hoods, chinneys and flues Excludes flutures attached to the celling with small holes through the celling for wiring, e.g. celling fans; pendant lights, and heating and cooling duama to colling duama to coupancy assumptions. In some acromstances at will include garages. Coustom 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 This is your homes rating without solar or batteries. Energy value The statistical methods by the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a class 2 building. Exposure category – open terrain with evolastructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – open terrain with two obstructions e.g. dia grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category –	AFRC	Australian Fenestration Rating Council
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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 energy use Energy value The is your homes rating without solar or batteries. Entrance door Windiversion 10 cass 2 building. Exposure see exposure category in class 2 building. Exposure category – exposed terrain with no obstructions a 1 a similar height e g grasslands with few well scattered obstructions below 10m, farmland witt scattered sheds, lightly vegetated bush blocks, effectived units (e.g. abuurban housing), heavily vegetated bushand areas. Exposure category – protected terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing), heavily vegetated bushand areas. Exposure category – protected terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing), heavily vegetated bushand areas. Exposure category – protected terrain with n		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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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	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.	Unconditioned	
Vertical shading features provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Include privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees	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)	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. 0009819053

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 8, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 79 5 Unconditioned* 0.0 Total 79.5 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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.

The more stars

the more energy efficient

NATIONWIDE

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	26.9	1.3
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=FgclDTixS When using either link, ensure you are visiting hstar.com.au





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 16 Oct 2024

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.	Assess	Consen Surveyo	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					

0009819053 NatHERS Certificate7.2 Star Rating as of 16 Oct 2024					HOUSE
	Approval Stage Construction Stage			ction	
Certificate check	ecked	hority/ ecked	ked	hority 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	assessr	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]
Kitchen/Living	Kitchen/Living	33.6
Entry Hall	Daytime	8.73
Bath/Laundry	Daytime	9.92
Bedroom 1	Bedroom	14.93
Bedroom 2	Bedroom	12.36

Window and glazed door type and performance

Default windows*

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

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
willdow iD	Description	U-value*	3160	SHGC lower limit SHGC upper	
No Data Available					

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-03 A	n/a	2400	2400	Sliding	45	S	No
Kitchen/Living	ALM-001-03 A	n/a	800	1800	Awning	90	W	No
Bedroom 1	ALM-001-03 A	n/a	1800	1800	Awning	60	S	No
Bedroom 2	ALM-001-03 A	n/a	1800	1800	Awning	60	S	No

Roof window* type and performance value

Default roof windows*

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

* Refer to glossary. Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 8, 29-35 Lochinvar Road , Revesby , NSW , 2212



Custom roof windows*

Window ID	Window	Maximum	SUCC*	Substitution to	erance 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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	5000	S	3200	No
Kitchen/Living	EW-1	2700	3500	W	10250	Yes
Bedroom 1	EW-1	2700	3700	S	0	No
Bedroom 2	EW-1	2700	1200	E	7500	No

0009819053 NatHERS Certificate

7.2 Star Rating as of 16 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]	
Bedroom 2	EW-1	2700	3900	S	0	No	
Bedroom 2	EW-1	2700	3200	W	5000	No	

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	37.53	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	46.98	No insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab on Ground 200mm	33.60	None	No Insulation	Ceramic Tiles 8mm
Entry Hall	Concrete Slab on Ground 200mm	8.73	None	No Insulation	Ceramic Tiles 8mm
Bath/Laundry	Concrete Slab on Ground 200mm	9.92	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 200mm	14.93	None	No Insulation	Carpet 10mm
Bedroom 2	Concrete Slab on Ground 200mm	12.36	None	No Insulation	Carpet 10mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Entry Hall	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Laundry	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	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
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed



Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900
Bedroom 2	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
None Present		0.00	

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	ation F	uel type	eff	nimum iciency/ ormance		mended acity		
No Data Available									
Heating system									
Appliance/ system type	Loc	ation F	uel type	Minimum efficiency/ performance			Recommended capacity		
No Data Available									
Hot water system									
Hot water system Appliance/ system type	Fuel type	Hot Water	Minimum efficiency	Zone 3 STC		Ibstitution e ranges	Assessed daily load		

Recommended capacity

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 on the design documents. Ceiling penetrations [Earlurs Bhat require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chinneys and flues. The tenting and cooling ducts. COP Coefficient O performance Conditioned a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some orcumatines within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some orcumatines within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some orcumatines within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some orcumatines within a dwelling without solar or batteries. ERR Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity in the secoling withist of a positiv in building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Entrance door The sis your homes rating without solar or batteries. Exposure category – popenties Caleporties based on the data deporties based. Exposure category – popenties Earport Provisions Standard). Exposure category – popenties. Earport Provisions Standard). Earpos	AFRC	Australian Fenestration Rating Council
Assessed hold area floor area in the design documents. Calling penetrations features that require a penetration to the ceiling, including downlights, wents, exhaust fans, range holds, chimneys and flues. Excludes fittures attached to the ceiling, including downlights, wents, exhaust fans, range holds, chimneys and flues. 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 This is worthous 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 ABC Housing Provisions Standard). Exposure category – exposed Energy use The in evolume obstanctions e g. and graning land. cosend-hortage, desert. avordal high-rise unit (usually above 10 floors). Exposure category – exposed terrain with numerous, closely spaced obstructions over 10 m e g. cly and industrial areas. Exposure category – exposed terrain with numerous, closely spaced obstructions over 10 m e g. cly and industrial areas. Exposure catego	Annual energy load	
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 Expected in the construction of the const	Assessed floor area	
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 in the sing your homes rating without solar or batteries. Energy value Thes is your homes rating without solar or batteries. Entrance door the ABCB Housing Provisions Standard). Exposure category – exposed thera ABCB Housia 2 building. Exposure category – open see exposure category is a standard. Exposure category – protected terrain with numerous, closely spaced obstructions at a similar height e.g. grasslands with few uell scattered obstructions below 10m, farmland with scattered stels, lightly vegetated bush hous ling, heavily vegetated bush hold using and attached Class 10 abuilding. terrain with numerous, closely spaced obstructions were bound at www.acbc.gov.au. Exposure category – protected terrain with numerous, closely spaced obstructions can be found at www.acbc.gov.au. terrain with numerous, closely spaced obstructions and a single and attached Class 10 abuildings.	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 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 input. ERR Energy Efficiency Ratio, measure of how much ocoling can be achieved by an air conditioner for a single KWh of electricity input. 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). Entrance door these signify ventilation beeneffs in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building. Exposure category – exposed terrain with no obstructions e.g. fall grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – protected terrain with numerous, closely spaced obstructions below 10m e.g. etaya in diadital areas. Exposure category – protected terrain with numerous, closely spaced obstructions due on the negolas, caports, or overhangs or balconies from upper levels. Noticonal Construction Code (NCC) Class 1. the NCC groups building in the horizontal plane, e.g. and ssignar a classification code. NatHERS software models NCC Class 1. Opening percentage the bound twww.	COP	Coefficient of performance
Custom Windows 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 2 Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input. 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 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). Exposure see exposure categories below. Exposure see exposure categories below. Exposure category – exposed terrain with no obstructions e a similar height e.g. qrasslnds with few well scattered obstructions below 10m (n.g. abwe 3 floors). Exposure category – suburban terrain with numerous, closely spaced obstructions below 10m e.g. abwe 3 floors). Exposure category – suburban terrain with numerous, closely spaced obstructions e.g. (i) and industrial areas. Exposure category – suburban terrain with numerous, closely spaced obstructions below 10m e.g. abwe 3 floors). Net zero home a home that cahleves a net zero energy value ² . Opening percentage the openability perentage o	Conditioned	circumstances it will include garages.
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 House's building. 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 do bstructions below 10m, faminand with Exposure category – open Exposure category – open terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed do bstructions below 10m, faminand with Exposure category – open Brain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas. Exposure category – unburban terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas. Exposure category – unburban terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas. Not zontal shading feature The is (C groups building by their function and use, and assigns a classifican code. NatHERS software models NCC Class 1.g. or 4 buildings and attached Class 10 abuildings. Definitions can be found at www.abcb.gov.au. Provisional value the or openable (moveable) area of doors windrows that is used in ventilation calculations.	Custom windows	
LER input ^T 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 Frovisions 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 below 10m 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. Nticonal Construction Code (the C) Croups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Net zero home a home that achieves a net zero energy value*. Opening percentage a dom entions. Provisional value rate does not represent an actual value. For example, if the wall colour is unspecified in the documentation. an oxisional value of rue con ensitin	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. 0009819087

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 9, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 79 5 Unconditioned* 0.0 Total 79.5 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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

31.3 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	29.6	1.6
Load limits	N/A	N/A

Features determining load limits

Floor Type	N/A
(lowest conditioned area)	IN/PA
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=KYAnyDLdo . When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 9, 29-35 Lochinvar Road , Revesby , NSW , 2212

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





6.8 Star Rating as of 16 Oct 2024

······································					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.	Assesso	Consent Surveyo	Builder o	Consent Surveyo	Occupar
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	1	Т	Т		
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					



Certificate check		al Stage	Construction Stage			
		Authority/ checked	checked	Authority checked	ncy/Other	
Continued	Assessor checked	Consent A Surveyor c	Builder ch	Consent A Surveyor c	Occupancy	
Additional NCC requirements for thermal performance (not incl	uded in t	he NatHE	RS asse	essment)		
Thermal bridging						
Does the dwelling meet the NCC requirement for thermal bridging?						
Insulation installation method		-	<u>.</u>			

Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		
---	--	--

Has the insulation been installed according to the NCC requirements?

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	assessi	nent)	
Dear the lighting month the entities of lighting requirements are sided in the NCC2				

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]
Kitchen/Living	Kitchen/Living	33.6
Entry Hall	Daytime	8.73
Bath/Laundry	Daytime	9.92
Bedroom 1	Bedroom	14.93
Bedroom 2	Bedroom	12.36

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum SHGC*		Substitution to	lerance ranges
willdow iD	Description	U-value*	3666	SHGC lower limit	SHGC upper limit
ALM-003-01 A	Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54
ALM-004-01 A	Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
willdow 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*
Kitchen/Living	ALM-003-01 A	n/a	800	2150	Awning	45	E	No
Kitchen/Living	ALM-004-01 A	n/a	2400	2400	Sliding	45	S	No
Bedroom 1	ALM-003-01 A	n/a	1800	1800	Awning	60	S	No
Bedroom 2	ALM-003-01 A	n/a	1800	1800	Awning	60	S	No

Roof window* type and performance value

Default roof windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
No Data Available					

* Refer to glossary. Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 9, 29-35 Lochinvar Road , Revesby , NSW , 2212



Custom roof windows*

Window ID	Window	Maximum	SUCC*	Substitution to	n tolerance 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
 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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	1300	E	0	No
Kitchen/Living	EW-1	2700	3500	Е	0	Yes
Kitchen/Living	EW-1	2700	5000	S	3400	No
Kitchen/Living	EW-1	2700	2500	Ν	3000	No

0009819087 NatHERS Certificate

6.8 Star Rating as of 16 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]	
Bedroom 1	EW-1	2700	3700	S	0	No	
Bedroom 2	EW-1	2700	3200	Е	5000	No	
Bedroom 2	EW-1	2700	3900	S	200	No	
Bedroom 2	EW-1	2700	1200	W	0	No	

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	48.87	No insulation
IW-002	Cavity brick	34.02	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab on Ground 200mm	33.60	None	No Insulation	Ceramic Tiles 8mm
Entry Hall	Concrete Slab on Ground 200mm	8.73	None	No Insulation	Ceramic Tiles 8mm
Bath/Laundry	Concrete Slab on Ground 200mm	9.92	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 200mm	14.93	None	No Insulation	Carpet 10mm
Bedroom 2	Concrete Slab on Ground 200mm	12.36	None	No Insulation	Carpet 10mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Entry Hall	Concrete, Plasterboard with Timber Frame	No insulation	
Bath/Laundry	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	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
Kitchen/Living	1	Exhaust Fans	300	Sealed

* Refer to glossary. Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 9, 29-35 Lochinvar Road , Revesby , NSW , 2212

0009819087 NatHERS Certific	ate	6.8 Star Rating as of 16 Oct 2024			HOUSE
Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Bath/Laundry	1	Exhaust Fans	300	Sealed	

Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900
Bedroom 2	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
None Present		0.00	

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 $5W/m^2$ 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				

6.8 Star Rating as of 16 Oct 2024



Hot water system

Appliance/ system type	Fuel type	Hot Water	Minimum efficiency	Zone 3 STC	tolerance ranges	Assessed daily load	
		CER Zone	/STC	510	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
	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.
	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.
	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 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.
Lifergy 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).
Elitrance 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.
	see exposure categories below.
	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).
	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.
Horizontal shaung leature	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.
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.
	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.
¥	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.
3103	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)
I hermal 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.
	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).
	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. 0009819111

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 10, 29-35 Lochinvar Road, Revesby , NSW , 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 50.7 Unconditioned* 8.7 Total 59.4 Garage 0.0 Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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

The more stars

the more energy efficient

NATIONWIDE

11.6 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	5.2	6.4
Load limits	N/A	N/A

Features determining load limits

Floor Type	AL/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=WrBSnINMp . When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 10, 29-35 Lochinvar Road , Revesby , NSW , 2212



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



9.1 Star Rating as of 16 Oct 2024

Certificate check	Approva	I Stage	Construe Stage	ction	HOUSE ,
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	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
mandatory to complete this checklist.	Asse	Cons Surve	Build	Cons Surve	Occu
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					



0009819111 NatHERS Certificate9.1 Star Rating as of 16 Oct 2024					HOUSE
	Approva	al Stage	Constru Stage	ction	
Certificate check	sked	ority/ ked	pe	ority ked	her
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	ERS 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 perform	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	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 Add	itional requi	romonte the	t must also	he esticfied	include

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]
Lobby	Glazed Common Area	15.05
Kitchen/Living	Kitchen/Living	35
Bedroom 1	Bedroom	15.69
Bath/Laundry	Unconditioned	8.68

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-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
willdow iD	Description	U-value*	3660	SHGC lower limit SHGC upper	
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*
Lobby	ALM-002-01 A	W26	2400	2150	Fixed	00	E	No
Kitchen/Living	ALM-002-03 A	W24	2400	2400	Sliding	45	Ν	No
Bedroom 1	ALM-001-03 A	W23	1400	1450	Awning	10	Ν	No
Bedroom 1	ALM-001-03 A	W22	800	2150	Awning	10	E	No
Bath/Laundry	ALM-001-03 A	W21	800	1200	Awning	90	E	No

Roof window* type and performance value

Default roof windows*

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

* Refer to glossary. Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 10, 29-35 Lochinvar Road , Revesby , NSW , 2212



Custom roof windows*

Window ID	Window	Maximum	SUCC*	Substitution to	erance 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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Lobby	EW-1	2700	2945	E	0	Yes
Kitchen/Living	EW-1	2700	3900	Ν	3200	Yes
Bedroom 1	EW-1	2700	600	W	0	No
Bedroom 1	EW-1	2700	3600	Ν	900	Yes

0009819111 NatHERS Certificate

9.1 Star Rating as of 16 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]	
Bedroom 1	EW-1	2700	4400	E	200	No	
Bath/Laundry	EW-1	2700	4000	E	200	No	
Bath/Laundry	EW-1	2700	2200	S	3000	No	

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	43.47	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	20.52	No insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Lobby	Concrete Slab, Unit Below 200mm	15.21	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	35.00	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	15.69	None	No Insulation	Carpet 10mm
Bath/Laundry	Concrete Slab, Unit Below 200mm	8.68	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]
Lobby	Plasterboard on Timber	Bulk Insulation R4	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R4	
Bath/Laundry	Plasterboard on Timber	Bulk Insulation R4	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed



Ceiling fans

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

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light

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	ef	inimum ficiency/ formance		ecommended capacity		
No Data Available									
Heating system									
Appliance/ system type	Lo	cation F	uel type	Minimum efficiency/ performance			Recommended capacity		
No Data Available									
Hot water system									
Appliance/ system type	Fuel type	Hot Water	r efficiency Z	Zone 3 STC		ubstitution e ranges	Assessed daily load		
		CER Zone		010	lower limit	upper limit	[litres]		

Pool/spa equipment	9.1 Star Rating as of 16 Oct 2024		HOLS
Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
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.

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
	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.
	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 Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
<u></u>	This is your homes rating without solar or batteries.
Lifergy 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).
Elitrance 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.
	see exposure categories below.
	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).
	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.
Horizontal shaung leature	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.
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.
	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.
¥	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.
3103	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)
I hermal 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.
	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).
	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. 0009819145

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 11, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 61.3 Unconditioned* 0.0 Total 61.3 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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

7.5 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	1.4	6.1
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=CNjpebCJW . When using either link, ensure you are visiting hstar.com.au





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



9.8 Star Rating as of 16 Oct 2024

Certificate check	Approva	Il Stage	Constru Stage	ction	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.	Assess	Consei Survey	Builder	Consei 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					
0009819145 NatHERS Certificate9.8 Star Rating as of 16 Oct 2024					HOUSE
---	------------------	--	-------------------	---------------------------------------	-----------------
	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 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]
Kitchen/Living	Kitchen/Living	35.69
Bedroom 1	Bedroom	16.77
Bath/Laundry	Daytime	8.85

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-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	

Custom windows*

Window ID	Window	v Maximum		Substitution tolerance ranges		
WINDOW ID	Description	U-value*	SHGC*	SHGC lower limit SHGC up		
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*
Kitchen/Living	ALM-002-03 A	W26	2400	2400	Sliding	45	Ν	No
Bedroom 1	ALM-001-03 A	W2	1400	1450	Awning	10	Ν	No

Roof window* type and performance value

Default roof windows*

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

Custom roof windows*

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



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 [m²] Ori	rientation	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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	4000	Ν	3200	Yes
Bedroom 1	EW-1	2850	900	W	19475	No
Bedroom 1	EW-1	2700	3600	Ν	0	Yes
Bedroom 1	EW-1	2700	1000	E	7800	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IVV-001	Cavity brick	41.04	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	20.25	No insulation



Wall ID Wall type

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab, Unit Below	35.69	None	No	Ceramic Tiles 8mm
Ritchen/Living	200mm	00.00	NOTIC	Insulation	
Bedroom 1	Concrete Slab, Unit Below	16.77	None	No	Carpet 10mm
	200mm	10.77	NONE	Insulation	Calper Ionin
Bath/Laundry	Concrete Slab, Unit Below	8.85	None	No	Ceramic Tiles 8mm
Bath/Laundry	200mm	0.00	NONG	Insulation	

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R4	
Bath/Laundry	Plasterboard on Timber	Bulk Insulation R4	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed

Ceiling fans

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

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light



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	effi	nimum ciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	effi	nimum ciency/ 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		Minimur efficienc performar	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.

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Glossary

Australian Fenestration Rating Council he predicted amount of the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
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Coefficient of performance
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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.
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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)
re materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, out 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
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.
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).
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. 0009819178

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 12, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 61.6 Unconditioned* 0.0 Total 616 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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.

The more stars

the more energy efficient

NATIONWIDE

9.1 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
Modelled	1.6	7.4
Load limits	N/A	N/A

Features determining load limits

Floor Type	NUA
(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=mZVvbzOBE When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 12, 29-35 Lochinvar Road , Revesby , NSW , 2212



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





9.4 Star Rating as of 16 Oct 2024

Certificate check	Approva	I 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	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 checked	Consent Surveyo	Occupar
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					

0009819178 NatHERS Certificate9.4 Star Rating as of 16 Oct 2024					HOUSE
	Approva	I Stage	Construe Stage	ction	
Certificate check	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu					0
Thermal bridging				ssmenty	
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]
Kitchen/Living	Kitchen/Living	35.44
Bedroom 1	Bedroom	17.13
Bath/Laundry	Daytime	9.07

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-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	

Custom windows*

Window ID Window	Window	Maximum	SHGC*	Substitution to	lerance ranges
window iD	Description	U-value*	3160	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*
Kitchen/Living	ALM-002-03 A	W26	2400	2400	Sliding	45	Ν	No
Bedroom 1	ALM-001-03 A	W2	1400	1450	Awning	10	Ν	No

Roof window* type and performance value

Default roof windows*

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

Custom roof windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
No Data Available					



Roof window* schedule

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

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²] 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 absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Cavity Brick	0.30		Foil, Reflective both sides	Yes
EW-2	Cavity Brick	0.30		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]
Kitchen/Living	EW-1	2700	3900	Ν	3200	Yes
Bedroom 1	EW-1	2850	1000	W	11675	No
Bedroom 1	EW-1	2700	3600	Ν	0	Yes
Bedroom 1	EW-1	2700	1000	Е	15500	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	41.31	No Insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab, Unit Below	35.44	None	No	Ceramic Tiles 8mm
Ritchen/Living	200mm	55.44	None	Insulation	
Bedroom 1	Concrete Slab, Unit Below	17.13	None	No	Carpet 10mm
Bedroom 1	200mm	17.15	NULLE	Insulation	Calper Ionin
Roth/Loundry	Concrete Slab, Unit Below	9.07	None	No	Ceramic Tiles 8mm
Bath/Laundry	200mm	9.07	NONE	Insulation	

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R4	
Bath/Laundry	Plasterboard on Timber	Bulk Insulation R4	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
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Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light



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

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Appliance/ system type	Lo	cation F	uel type	effi	nimum ciency/ ormance		mended acity
No Data Available							
Heating system							
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Hot water system							
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Appliance/ system type		Fuel type		Minimur efficienc performar	y/	Recomm capac	

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System Type	Orientation	System Size Or Generation Capacity
No Data Available		



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System Type

Size [Battery Storage Capacity]

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Glossary

AFRC	Australian Fenestration Rating Council
	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.
	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.
	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 Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
<u></u>	This is your homes rating without solar or batteries.
Lifergy 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).
Elitrance 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.
	see exposure categories below.
	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).
	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.
Horizontal shaung leature	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.
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.
	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.
¥	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.
3103	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)
I hermal 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.
	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).
	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. 0009819202

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 13, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 60.1 Unconditioned* 0.0 Total 60.1 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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

29.0 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	24.9	4.0
Load limits	N/A	N/A

Features determining load limits

Floor Type	NUA
(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=OxTIPFErq When using either link, ensure you are visiting hstar.com.au





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



7.1 Star Rating as of 16 Oct 2024

					HOUSE
Certificate check	te check Approval 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.	Assesse	Consen Surveyc	Builder	Consen	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					

ALC: N
<u> </u>
HOUSE
moreout.

0009819202 NatHERS Certificate7.1 Star Rating as of 16 Oct 2024					HOUSE
	Approva	al Stage	Constru Stage	ction	
Certificate check	ked	vrity/ ked	p	ority ked	her
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	ERS 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 perform	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	S assessi	ment)	0	1
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. Add	itional requi	rements that	t 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]
Kitchen/Living	Kitchen/Living	34.54
Bedroom 1	Bedroom	16.87
Bath/Laundry	Daytime	8.71
Lobby	Glazed Common Area	39.68

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	Maximum	SHGC* Substitution tolerance		lerance ranges
	Description	U-value*	3160	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*
Kitchen/Living	ALM-001-03 A	W26	600	2400	Awning	45	W	No
Kitchen/Living	ALM-002-03 A	W33	2400	2400	Sliding	45	Ν	No
Bedroom 1	ALM-001-03 A	W2	1400	1450	Awning	10	Ν	No
Lobby	ALM-001-01 A	W27	2100	2700	Awning	45	S	No
Lobby	ALM-001-01 A	W28	2100	2150	Awning	45	S	No
Lobby	ALM-001-01 A	W32	2400	2900	Awning	60	Ν	No

Roof window* type and performance value

Default roof windows*

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



Custom roof windows*

Window ID	Window Maximum SHGC* —	Substitution to	olerance 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 Ava								

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]	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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	7100	W	6950	Yes
Kitchen/Living	EW-1	2700	3900	Ν	3300	Yes
Bedroom 1	EW-1	2850	900	W	3900	No
Bedroom 1	EW-1	2700	3700	Ν	0	Yes

0009819202 NatHERS Certificate

7.1 Star Rating as of 16 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]	
Bedroom 1	EW-1	2700	800	Е	0	No	_
Lobby	EW-1	2850	6000	S	0	Yes	_
Lobby	EW-1	2850	3045	Ν	0	Yes	

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	85.94	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	20.79	No insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.55	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	16.87	None	No Insulation	Carpet 10mm
Bath/Laundry	Concrete Slab, Unit Below 200mm	8.71	None	No Insulation	Ceramic Tiles 8mm
Lobby	Concrete Slab, Unit Below 200mm	39.68	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]
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R4	
Bath/Laundry	Plasterboard on Timber	Bulk Insulation R4	
Lobby	Plasterboard on Timber	Bulk Insulation R4	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed



Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light

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 ficiency/ 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 /STC	Zone 3 STC		Ibstitution e ranges upper limit	Assessed daily load [litres]
No Data Available							

0009819202 NatHERS Certificate	7.1 Star Rating as of 16 Oct 2024		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 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. 0009819210

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 14, 29-35 Lochinvar Road, Revesby , NSW , 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned*77.6Unconditioned*0.0Total77.6Garage0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)

Declaration completed: no conflicts



Accredited assessor

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

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 <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

NATIONWID

15.7 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	10.3	5.4
Load limits	N/A	N/A

Features determining load limits

Floor Type	NUA
(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=DhqCntHqP . When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 14, 29-35 Lochinvar Road , Revesby , NSW , 2212

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



8.5 Star Rating as of 16 Oct 2024

Certificate check	Approval Stage				HOUSE ,
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	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
mandatory to complete this checklist.	Asse	Cons Surve	Build	Cons Surve	Occu
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					



	Approval St			ction	
Certificate check	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not include	uded in t	he NatHE	ERS asse	essment)	
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	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	n	0	0	 <u> </u>

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]
Lobby	Glazed Common Area	31.96
Bath/Laundry	Daytime	8.48
Entry	Daytime	9.42
Bedroom 2	Bedroom	11.04
Kitchen/Living	Kitchen/Living	30.36
Bedroom 1	Bedroom	18.31

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 to	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*
Lobby	ALM-001-01 A	W27	2400	2900	Awning	60	Ν	No
Lobby	ALM-001-01 A	W25	2100	2150	Awning	45	S	No
Lobby	ALM-001-01 A	W39	2100	4550	Awning	45	SE	No
Bedroom 2	ALM-001-03 A	W5	1400	1450	Awning	10	NE	No
Kitchen/Living	ALM-002-03 A	W7	2400	2400	Sliding	45	NW	No
Kitchen/Living	ALM-001-03 A	W33	600	2400	Awning	90	NE	No
Bedroom 1	ALM-001-03 A	W35	1400	1450	Awning	10	NW	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 Avai	lable					
Custom roof v	vindows*					
Window ID	Window	Maximum	SUCC*	Substitution to	lerance ranges	
Window ID	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 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 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	0.30		Foil, Reflective both sides	Yes



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Lobby	EW-1	2700	3245	Ν	0	Yes
Lobby	EW-1	2700	3100	S	0	No
Lobby	EW-1	2700	5233	SE	0	No
Bedroom 2	EW-1	2700	2491	NE	141	Yes
Kitchen/Living	EW-1	2700	1556	SW	3960	No
Kitchen/Living	EW-1	2700	4525	NW	2864	Yes
Kitchen/Living	EW-1	2700	6930	NE	141	Yes
Bedroom 1	EW-1	2700	3960	NW	0	Yes

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	54.64	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	52.51	No insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Lobby	Concrete Slab, Unit Below 200mm	32.03	None	No Insulation	Ceramic Tiles 8mm
Bath/Laundry	Concrete Slab, Unit Below 200mm	8.48	None	No Insulation	Ceramic Tiles 8mm
Entry	Concrete Slab, Unit Below 200mm	9.42	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.04	None	No Insulation	Carpet 10mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	30.36	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	18.31	None	No Insulation	Carpet 10mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Lobby	Plasterboard on Timber	Bulk Insulation R4	
Bath/Laundry	Plasterboard on Timber	Bulk Insulation R4	

0009819210 NatHE	RS Certificate	8.5 Star Rati	ing as of 16 Oct 2024		HOUSE
Location	Construction material/type		Bulk insulation R-value (may include edge batt va	lues)	Reflective wrap* [yes/no]
Entry	Plasterboard on	Timber	Bulk Insulation R4		
Bedroom 2	Plasterboard on ⁻	Timber	Bulk Insulation R4		
Kitchen/Living	Plasterboard on [·]	Timber	Bulk Insulation R4		
Bedroom 1	Plasterboard on [·]	Timber	Bulk Insulation R4		

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bath/Laundry	1	Exhaust Fans	300	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 2	1	900
Kitchen/Living	1	1200
Bedroom 1	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light

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	Lo	cation	Fuel type	eff	inimum 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 typ		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
	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.
	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.
	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 Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
<u></u>	This is your homes rating without solar or batteries.
Lifergy 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).
Elitrance 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.
	see exposure categories below.
	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).
	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.
Horizontal shaung leature	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.
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.
	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.
¥	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.
3103	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)
I hermal 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.
	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).
	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. 0009819046

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 15, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 61.9 Unconditioned* 0.0 Total 61.9 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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

20.6 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	12.7	8.0
Load limits	N/A	N/A

Features determining load limits

Floor Type	N/A
(lowest conditioned area)	IN/PA
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=JbCcAxlkK When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 15, 29-35 Lochinvar Road , Revesby , NSW , 2212

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 Star Rating as of 16 Oct 2024

Certificate check	Approva	I Stage	Constru Stage	ction	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	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			n	o`	
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 Star Rating as of 16 Oct 2024

HOUSE	

	Approval 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 tl	he NatHE	RS asse	essment)	
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	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]
Kitchen/Living	Kitchen/Living	36.08
Bedroom 1	Bedroom	17.7
Bath/Laundry	Daytime	8.16
Glazed Common 1	Glazed Common Area	22.12

Window and glazed door type and performance

Default windows*

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

Custom windows*

Window ID	Window	Maximum	ximum SHGC* -	C* Substitution tolerance range		
window iD	Description	U-value*	3660	SHGC lower limit SHGC u		
No Data Avail	able					

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width Wi [mm] typ		Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-03 A	n/a	2400	2400 Sli	liding	45	NW	No
Bedroom 1	ALM-001-03 A	n/a	1400	1450 Av	wning	10	NW	No
Glazed Common 1	ALM-001-01 A	n/a	2100	3600 Av	wning	45	SE	No

Roof window* type and performance value

Default roof windows*

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



Custom roof windows*

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

Roof window* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data 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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	3748	NW	2988	Yes
Bedroom 1	EW-1	2700	1131	SW	7920	No
Bedroom 1	EW-1	2700	3748	NW	0	Yes
Bedroom 1	EW-1	2700	424	NE	3748	No

0009819046 NatHERS Certificate

8 Star	Rating	as	of	16	Oct 2024	
0.0101	. caung	~~	•••		0012021	

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Glazed Common 1	EW-1	2700	5940	SE	0	Yes

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	61.48	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	21.96	No insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	36.23	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	17.70	None	No Insulation	Carpet 10mm
Bath/Laundry	Concrete Slab, Unit Below 200mm	8.16	None	No Insulation	Ceramic Tiles 8mm
Glazed Common 1	Concrete Slab, Unit Below 200mm	22.12	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]
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R4	
Bath/Laundry	Plasterboard on Timber	Bulk Insulation R4	
Glazed Common 1	Plasterboard on Timber	Bulk Insulation R4	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200

0009819046 NatHERS Certificate	8 Star Rating as of 16 Oct 2024		HOUSE
Location	Quantity	Diameter [mm]	
Bedroom 1	1	900	

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light

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	eff	nimum iciency/ ormance		mended acity
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	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac	
No Data Available							

* Refer to glossary. Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 15, 29-35 Lochinvar Road , Revesby , NSW , 2212



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 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. 0009819079

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type

Unit 16, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J **DTA Architects**

Construction and environment

Assessed floor area [m2]*

Conditioned* 49.5 Unconditioned* 8.2 Total 57.7 Garage 0.0

Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



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

NATIONWID

The more stars

the more energy efficient

17.2 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	9.5	7.7
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=glkgXXvnC When using either link, ensure you are visiting hstar.com.au



* Refer to glossary Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 16, 29-35 Lochinvar Road , Revesby , NSW , 2212

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 Applia

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



8.4 Star Rating as of 16 Oct 2024

					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.	Assesso	Consent Surveyo	Builder	Consent Surveyo	Occupai
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					

0009819079 NatHERS Certificate8.4 Star Rating as of 16 Oct 2024					HOUSE		
	Approva	I Stage	Constru Stage	ction			
Certificate check	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other		
	Asse	Cons Surv	Build	Cons Surv	Occi		
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 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

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Room schedule

Room	Zone Type	Area [m ²]
Kitchen/Living	Kitchen/Living	32.48
Bedroom 1	Bedroom	17.02
Bath/Laundry	Unconditioned	8.16
Lobby	Glazed Common Area	22.12

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-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
willdow iD	Description	n U-value* SH		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*
Kitchen/Living	ALM-002-03 A	n/a	2400	2400	Sliding	45	NW	No
Bedroom 1	ALM-001-03 A	n/a	800	2100	Awning	10	SW	No
Bedroom 1	ALM-001-03 A	n/a	1500	1400	Awning	10	NW	No
Bath/Laundry	ALM-001-03 A	n/a	800	1200	Awning	90	SW	No
Lobby	ALM-002-01 A	n/a	2100	2150	Fixed	00	SW	Yes

Roof window* type and performance value

Default roof windows*

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

* Refer to glossary. Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 16, 29-35 Lochinvar Road , Revesby , NSW , 2212



Custom roof windows*

Window ID	Window	Maximum	SHCC*	GC* Substitution tolerance ranges SHGC lower limit SHGC upper	
Window ID	Description	U-value*	SHGC*		
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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	3818	NW	3111	Yes
Bedroom 1	EW-1	2700	4667	SW	0	No
Bedroom 1	EW-1	2700	3677	NW	0	Yes
Bedroom 1	EW-1	2700	1131	NE	3748	No

0009819079 NatHERS Certificate

8.4 Star Rating as of 16 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bath/Laundry	EW-1	2700	3763	SW	0	No
Lobby	EW-1	2700	3056	SW	0	Yes

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	48.88	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	19.47	No insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	32.63	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	17.02	None	No Insulation	Carpet 10mm
Bath/Laundry	Concrete Slab, Unit Below 200mm	8.16	None	No Insulation	Ceramic Tiles 8mm
Lobby	Concrete Slab, Unit Below 200mm	22.12	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]
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R4	
Bath/Laundry	Plasterboard on Timber	Bulk Insulation R4	
Lobby	Plasterboard on Timber	Bulk Insulation R4	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed



Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light

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	eff	inimum ficiency/ formance		mended acity	
No Data Available								
Heating system								
Appliance/ system type	Lo	cation F	uel type	Minimum efficiency/ performance			Recommended capacity	
No Data Available								
Hot water system								
Appliance/ system type	Fuel type	Hot Water	Minimum efficiency	Zone 3 STC		ubstitution e ranges	Assessed daily load	
	CER Z		/STC	510	lower limit	upper limit	[litres]	

Pool/spa equipment			HOUS
Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
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.

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Glossary

AFRC	Australian Consistentian Dating Council
	Australian Fenestration Rating Council the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Annual energy load	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the
Assessed floor area	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. 0009819095-01

Generated on 25 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 17, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Exposure type

NatHERS climate zone

56 Mascot (Sydney Airport)

Suburban

Plans

Main plan Prepared by BH27J DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 73.5 Unconditioned* 10.5 Total 84.0 Garage 0.0



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

6.3 The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

35.7 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	29.5	6.2
Load limits	N/A	N/A

Features determining load limits

Floor Type	NUA
(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=dxzUnyzyH . When using either link, ensure you are visiting hstar.com.au





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:
- NCC Climate Zone 1 of 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

No Whole of Home performance assessment conducted for this certificate

Cost



6.3 Star Rating as of 25 Oct 2024

Certificate check	Approva	I Stage	Construe Stage	ction	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.	Asses	Conse	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					



0009819095-01 NatHERS Certificate 6.3 Star Rating as of 25 Oct 2024					HOUSE
	Approva	al Stage	Constru Stage	ction	
Certificate check	ecked	hority/ ecked	ked	hority 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	ERS asse	essment)	
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 perform	ance asse	ssment is	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	S assess	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 Cartificate only acyara the anarry officiancy requirements in the NCC. Add	itional rami	romonto 4-	+ must al	he estisfied	include

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]
Lobby	Glazed Common Area	24.91
Entry	Daytime	10.25
Kitchen/Living	Kitchen/Living	34.21
Bedroom 1	Bedroom	16.02
Bath/Laundry	Unconditioned	10.52
Bedroom 2	Bedroom	12.97

Window and glazed door type and performance

Default windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
willdow iD	Description	U-value*	3666	SHGC lower limit	SHGC upper limit	
ALM-003-03 A	Aluminium A DG Air Fill High Solar Gain low-E -	4.3	0.47	0.45	0.49	
ALM-004-03 A	Aluminium B DG Air Fill High Solar Gain low-E -	4.3	0.53	0.50	0.56	

Custom windows*

Window ID	Ndow ID SHGC*		Substitution tolerance ranges		
WINDOW ID	Description	U-value*	3600	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*
Lobby	ALM-001-01 A	n/a	2100	2200	Awning	45	SW	No
Entry	ALM-003-03 A	n/a	1200	720	Awning	90	SE	No
Kitchen/Living	ALM-003-03 A	n/a	800	2150	Awning	45	NE	No
Kitchen/Living	ALM-004-03 A	n/a	2400	2400	Sliding	45	SE	No
Bedroom 1	ALM-003-03 A	n/a	800	2150	Awning	10	SW	No
Bedroom 1	ALM-003-03 A	n/a	1400	1550	Awning	10	NW	No
Bath/Laundry	ALM-003-03 A	n/a	800	1200	Awning	90	SE	No
Bedroom 2	ALM-003-03 A	n/a	1400	1800	Awning	10	SE	No

HOUSE

Roof window* type and performance value

Default roof windows*

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

Custom roof windows*

Window/ID	Window	ndow Maximum SHGC* Sub	Substitution to	bstitution tolerance ranges		
Window ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
	VEL-012-01 W VELUX FCM - Fixed Curb					
VEL-012-01 W	Mount Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	4.0	0.27	0.26	0.28	

Roof window* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Kitchen/Living	VEL-012-01 W	S1	0	1050	1000	S	Yes	Yes
Kitchen/Living	VEL-012-01 W	S2	0	1050	1000	S	Yes	Yes

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 Ava	ailable								
Extorna	External door schedule								

External door schedule

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

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Cavity Brick	0.30		Bulk Insulation R0.7	No
EW-2	Cavity Brick	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Lobby	EW-2	2700	2773	SW	35	Yes
Entry	EW-2	2700	1414	SE	813	No
Kitchen/Living	EW-2	2700	4612	NE	141	No
Kitchen/Living	EW-2	2700	4101	SE	3748	No
Bedroom 1	EW-2	2700	4455	SW	283	No
Bedroom 1	EW-2	2700	3890	NW	566	No
Bath/Laundry	EW-2	2700	707	NE	9511	No
Bath/Laundry	EW-2	2700	3677	SE	177	No
Bath/Laundry	EW-2	2700	2617	SW	230	No
Bedroom 2	EW-2	2700	3394	NE	4207	No
Bedroom 2	EW-2	2700	3818	SE	389	No
Bedroom 2	EW-2	2700	1628	SW	247	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	37.80	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	49.08	No insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Lobby	Concrete Slab, Unit Below 200mm	25.13	None	No Insulation	Ceramic Tiles 8mm
Entry	Concrete Slab, Unit Below 200mm	10.25	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.21	None	No Insulation	Ceramic Tiles 8mm

0009819095-01 NatHERS Certificate

6.3 Star Rating as of 25 Oct 2024



Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	16.02	None	No Insulation	Carpet 10mm
Bath/Laundry	Concrete Slab, Unit Below 200mm	10.52	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	12.97	None	No Insulation	Carpet 10mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Lobby	Plasterboard on Timber	Bulk Insulation R4	
Entry	Plasterboard on Timber	Bulk Insulation R4	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R4	
Bath/Laundry	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R4	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Kitchen/Living	1	Exhaust Fans	300	Sealed	
Bath/Laundry	1	Exhaust Fans	300	Sealed	

Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900
Bedroom 2	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light



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								
ppliance/ 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		Minimur efficienc performar	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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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. 0009819129

Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 18, 29-35 Lochinvar Road, Revesby , NSW , 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27J DTA Architects

Construction and environment

Assessed floor area [m2]*

Conditioned* 79.5 Unconditioned* 0.0 Total 79.5 Garage 0.0 Exposure type Suburban NatHERS climate zone 56 Mascot (Sydney Airport)



Accredited assessor

NameDealBusiness nameGreeEmaildealPhone854Accreditation No.DMAssessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration

Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683 DMN/13/1645

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 <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

6.4 The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

34.4 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	24.4	10.1
Load limits	N/A	N/A

Features determining load limits

Floor Type	NUA
(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=XNKebralP. 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 Applia

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





6.4 Star Rating as of 16 Oct 2024

Certificate check	Approva	Approval 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	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 checked	Consent Surveyo	Occupar
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					

0009819129 NatHERS Certificate	6.4 Star Rating as of 16 Oct 2024					HOUSE
_		Approval Stage		Construction Stage		
Certificate check		ecked	hority/ ecked	ked	hority 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	essment)	
Thermal bridging						
Does the dwelling meet the NCC require	ement for thermal bridging?					
Insulation installation method						
Has the insulation been installed accord	ing to the NCC requirements?					
Building sealing						
Does the dwelling meet the NCC require	ements for Building Sealing?					
Whole of Home performance of	check (not applicable if a Whole of Hom	e performa	ance asses	ssment is i	not conduc	ted)
Appliances						
Does the cooling appliance/s type, locat NatHERS-stamped plans or as installed efficiency/performance requirements sho Certificate?						
Does the heating appliance/s type, locat NatHERS-stamped plans or installed, m efficiency/performance requirements sho Certificate?						
Does the hot water system type and efficiency/performance requirements sho Certificate?						
	nce shown on the NatHERS-stamped plans ency/performance requirements shown in the					
Does the onsite renewable energy syste generation capacity shown on the NatHi 'Onsite Renewable Energy schedule' on	ERS stamped plans or installed match the					
Additional NCC Requirements	for Services (not included in the	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighti	ng requirements specified in the NCC?					
Does the hot water system meet the add	litional 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]
Kitchen/Living	Kitchen/Living	33.6
Entry Hall	Daytime	8.73
Bath/Laundry	Daytime	10.06
Bedroom 1	Bedroom	14.79
Bedroom 2	Bedroom	12.36

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-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61	
ALM-001-03 A	Aluminium A SG High Solar Gain Low-E	5.4	0.49	0.47	0.51	

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
willdow 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*
Kitchen/Living	ALM-002-03 A	n/a	2400	2400	Sliding	45	S	No
Kitchen/Living	ALM-001-03 A	n/a	800	1800	Awning	90	W	No
Bedroom 1	ALM-001-03 A	n/a	1400	1800	Awning	10	S	No
Bedroom 2	ALM-001-03 A	n/a	1400	1800	Awning	10	S	No

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 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 18, 29-35 Lochinvar Road , Revesby , NSW , 2212



Custom roof windows*

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

Roof window* schedule

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

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame	0.5

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²]	Outdoor shade	Diffuser
Kitchen/Living	GEN-04-006a	S1	50	1.19 S	None	No
Kitchen/Living	GEN-04-006a	S2	50	1.19 S	None	No

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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	5000	S	3200	No
Kitchen/Living	EW-1	2700	3500	W	10250	Yes
Bedroom 1	EW-1	2700	3700	S	0	No

0009819129 NatHERS Certificate

6.4 Star Rating as of 16 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]	
Bedroom 2	EW-1	2700	1200	E	7500	No	
Bedroom 2	EW-1	2700	3900	S	0	No	
Bedroom 2	EW-1	2700	3200	W	5000	No	

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity brick	37.53	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	46.98	No insulation

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	33.60	None	No Insulation	Ceramic Tiles 8mm
Entry Hall	Concrete Slab, Unit Below 200mm	8.73	None	No Insulation	Ceramic Tiles 8mm
Bath/Laundry	Concrete Slab, Unit Below 200mm	10.06	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	14.79	None	No Insulation	Carpet 10mm
Bedroom 2	Concrete Slab, Unit Below 200mm	12.36	None	No Insulation	Carpet 10mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R4	
Entry Hall	Plasterboard on Timber	Bulk Insulation R4	
Bath/Laundry	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R4	

Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed

* Refer to glossary. Generated on 16 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 18, 29-35 Lochinvar Road , Revesby , NSW , 2212

Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900
Bedroom 2	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light

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 iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation	Fuel type	eff	inimum iciency/ formance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water	Minimum efficiency	Zone 3 STC		ibstitution e ranges	Assessed daily load
		CER Zone	e /STC	310	lower limit	upper limit	[litres]
No Data Available							

0009819129 NatHERS Ce	ertificate 6.4	Star Rating as of 16 Oct 2	2024	HOUSE
Pool/spa equipment				
Appliance/ system typ	De	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				
Onsite Renewa	ble Energy S	Schedule		
System Type	Orientation		System Size Or Generati	ion 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
	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.
	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.
	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 Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
<u></u>	This is your homes rating without solar or batteries.
Lifergy 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).
Elitrance 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.
	see exposure categories below.
	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).
	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.
Horizontal shaung leature	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.
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.
	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.
¥	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.
3103	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)
I hermal 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.
	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).
	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. 0009819152-01

Generated on 25 Oct 2024 using BERS Pro v5.2.3 (3.23)

Property

Address

Lot/DP NCC class Floor/all Floors Type

Unit 19, 29-35 Lochinvar Road, Revesby, NSW, 2212 Lot 52,53,54,55 DP 36467 2 G of 1 floors New Home

Plans

Main plan Prepared by BH27.1 **DTA Architects**

Exposure type

NatHERS climate zone

56 Mascot (Sydney Airport)

Suburban

Construction and environment

Assessed floor area [m2]*

Conditioned* 79.5 Unconditioned* 0.0 79.5 Total Garage 0.0

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 energy efficient NATIONWIDE

The more stars

34.7 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	22.8	12.0
Load limits	N/A	N/A

Features determining load limits

Floor Type	NUA
(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=YzXUwiylb When using either link, ensure you are visiting hstar.com.au





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

No Whole of Home performance assessment conducted for this certificate

Cost



6.4 Star Rating as of 25 Oct 2024

Certificate check	Approva	I Stage	Construe Stage	ction	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.	Asses	Conse	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					

0009819152-01 NatHERS Certificate6.4 Star Rating as of 25 Oct 2024					HOUSE
	Approval Stage Construction Stage			ction	
Certificate check	hecked	thority/ iecked	cked	thority lecked	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 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	S assessr	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]		
Kitchen/Living	Kitchen/Living	33.6		
Entry Hall	Daytime	8.73		
Bath/Laundry	Daytime	9.92		
Bedroom 1	Bedroom	14.93		
Bedroom 2	Bedroom	12.36		

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-003-03 A	Aluminium A DG Air Fill High Solar Gain Iow-E -	4.3	0.47	0.45	0.49	
ALM-004-03 A	Aluminium B DG Air Fill High Solar Gain low-E -	4.3	0.53	0.50	0.56	

Custom windows*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges				
	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*
Kitchen/Living	ALM-003-03 A	n/a	800	2150	Awning	45	E	No
Kitchen/Living	ALM-004-03 A	n/a	2400	2400	Sliding	45	S	No
Bedroom 1	ALM-003-03 A	n/a	1400	1800	Awning	10	S	No
Bedroom 2	ALM-003-03 A	n/a	1400	1800	Awning	10	S	No

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 25 Oct 2024 using BERS Pro v5.2.3 (3.23) for Unit 19, 29-35 Lochinvar Road , Revesby , NSW , 2212



Custom roof windows*

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

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
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame	0.5

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²]	Outdoor shade	Diffuser
Kitchen/Living	GEN-04-006a	S1	50	1.19 S	None	No
Kitchen/Living	GEN-04-006a	S2	50	1.19 S	None	No

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	0.30		Foil, Reflective both sides	Yes

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	1300	Е	0	No
Kitchen/Living	EW-1	2700	3500	Е	25	Yes
Kitchen/Living	EW-1	2700	5000	S	3600	No

0009819152-01 NatHERS Certificate

6.4 Star Rating as of 25 Oct 2024



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	2700	2100	Ν	3000	No
Bedroom 1	EW-1	2700	3700	S	0	No
Bedroom 2	EW-1	2700	3200	E	5075	No
Bedroom 2	EW-1	2700	3900	S	400	No
Bedroom 2	EW-1	2700	1200	W	7400	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	48.87	No insulation
IW-002	Cavity brick	34.02	No Insulation

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	33.60	None	No Insulation	Ceramic Tiles 8mm
Entry Hall	Concrete Slab, Unit Below 200mm	8.73	None	No Insulation	Ceramic Tiles 8mm
Bath/Laundry	Concrete Slab, Unit Below 200mm	9.92	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	14.93	None	No Insulation	Carpet 10mm
Bedroom 2	Concrete Slab, Unit Below 200mm	12.36	None	No Insulation	Carpet 10mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R4	
Entry Hall	Plasterboard on Timber	Bulk Insulation R4	
Bath/Laundry	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R4	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R4	



Ceiling penetrations*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bath/Laundry	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Kitchen/Living	1	1200
Bedroom 1	1	900
Bedroom 2	1	900

Roof type

Construction	Added insulation	Solar	Roof shade
	[R-value]	absorptance	[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.30	Light

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



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 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)