

Nationwide House Energy Rating Scheme®

Multiple Class 1 Dwellings Summary

NatHERS® Certificate No. 9AHFPI1P5K

Generated on 22 May 2024 using FirstRate5 v5.5.5

Property

Address 45 HILLCREST AVE,
GREENACRE, NSW, 2190

Lot/DP

NatHERS Climate Zone 56



Accredited assessor

Name nasrin moradi
Business name ecomaxhomes
Email info@ecomaxhomes.com.au
Phone 0406184087
Accreditation No. HERA10095
Assessor Accrediting Organisation
HERA



Verification

To verify this certificate, scan the QR code or visit <https://www.fr5.com.au/QRCodeLanding?PublicId=9AHFPI1P5K&GrpCert=1>
When using either link, ensure you are visiting www.fr5.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.

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/m ² /p.a.]	Star rating	Whole of Home Rating
NSKQE133YJ	GRNY	20.7 (N/A)	8.1 (N/A)	28.8	7.1	NA
UPBZ7SA6GV	MAIN	19.5 (N/A)	9.6 (N/A)	29.1	7.1	NA



Explanatory notes

About this report

This is a summary of NCC Class 1 dwellings in a development. For more details of each dwelling refer to the individual dwelling's certificate using the certificate number in summary of all dwellings table

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 energy value*. 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 production and storage to estimate the home's energy value*.

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

Accredited Assessors

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

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

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

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

Disclaimer

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

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

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, 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® Certificate No. NSKQE133YJ

Generated on 22 May 2024 using FirstRate5: 5.5.5 (3.22)

Property

Address GRNY, 45 HILLCREST AVE,
GREENACRE, NSW, 2190
Lot/DP 1/21703
NCC Class* Class 1a
Floor/all Floors
Type New Home

Plans

Main plan -
Prepared by -

Construction and environment

Assessed floor area [m²]*	Exposure type
Conditioned* 55.5	suburban
Unconditioned* 5.7	NatHERS climate zone
Total 61.2	56 Mascot AMO
Garage -	



Accredited assessor

Name nasrin moradi eskandari
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Email info@ecomaxhomes.com.au
Phone 0406184087
Accreditation No. HERA10095
Assessor Accrediting Organisation
HERA
Declaration of interest No

NCC Requirements

NCC provisions Volume 2
State/Territory variation Yes

National Construction Code (NCC) requirements

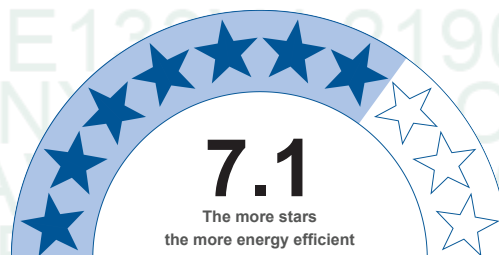
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. 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
HOUSE**
ENERGY RATING SCHEME®

28.8 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	20.7	8.1
Load limits	N/A	N/A
Features determining load limits		
Floor type (lowest conditioned area)		N/A
NCC climate zone 1 or 2		N/A
Outdoor living area		N/A
Outdoor living area ceiling fan		N/A

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 <https://www.fr5.com.au/QRCodeLandIng?PublicId=NSKQE133YJ> When using either link, ensure you are visiting www.fr5.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 NatHERS heating and cooling load limits Standard 2022 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 Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Certificate check

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 who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/surveyor checked	Builder checked	Consent authority/surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
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".	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NatHERS heating and cooling load limits for the appropriate climate zone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Refer to glossary.



Certificate check	Approval stage		Construction stage		Occupancy/other
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	

Continued

Additional NCC requirements for thermal performance (not included in the NatHERS assessment)

Thermal bridging

Does the dwelling meet the NCC requirement for thermal bridging?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the hot water system meet the additional requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	<input type="checkbox"/>	<input type="checkbox"/>			
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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

- ASSESSOR ASSUMED NEIGHBORING / FENCES
- ASSESSOR ASSUMED FLOOR COVERING.
- CEILING FAN ADDED TO ALL BEDROOMS AND DINING AREA
- ASSESSOR ASSUMED CEILING PENETRATION (LIGHTS/ EXHAUST FANS)
- R2.0 ADDED TO WET AREA INTERNAL WALLS
- R1.0 ADDED TO FLOOR AREA



Room *schedule*

Room	Zone Type	Area [m ²]
BED 2	bedroom	10.7
BED 1	bedroom	13
BATH	unconditioned	5.7
Kitchen/Living	kitchen	31.8

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	Aluminium B SG Clear	6.7	0.7	0.66	0.74

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
BED 2	ALM-002-01 A	W2.3	970	1810	sliding	45.0	N	No
BED 1	ALM-002-01 A	Opening 9	970	1810	sliding	45.0	W	No
BATH	ALM-002-01 A	W2.1	600	850	awning	90.0	W	No
Kitchen/Living	ALM-002-01 A	W2.4	2100	1810	sliding	45.0	E	No
Kitchen/Living	ALM-002-01 A	W2.5	2100	1810	sliding	45.0	E	No
Kitchen/Living	ALM-002-01 A	SD2.1	2100	2100	sliding	45.0	S	No

Roof window* *type and performance value*

Default* roof windows

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

Custom* roof windows

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

*Refer to glossary.



Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	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]	Orient-ation	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*
1	FR5 - Brick Cavity	0.5	Medium	Glass fibre batt: R1.0 (R1.0)	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
BED 2	1	2400	3700	E	506	Yes
BED 2	1	2400	3079	N	508	Yes
BED 1	1	2400	4217	W	505	Yes
BED 1	1	2400	3078	N	506	Yes
BATH	1	2400	2948	W	518	Yes
Kitchen/Living	1	2400	6238	E	0	Yes
Kitchen/Living	1	2400	2671	W	506	Yes
Kitchen/Living	1	2400	6255	S	3169	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Brick Cavity	7.4	Glass fibre batt: R1.0 (R1.0)
2	FR5 - Internal Plasterboard Stud Wall	16.7	Glass fibre batt: R2.0 (R2.0)
3	FR5 - Internal Plasterboard Stud Wall	13.7	



Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
BED 2	FR5 - 225mm concrete slab	10.7	Open	R1.0	Carpet
BED 1	FR5 - 225mm concrete slab	13	Open	R1.0	Carpet
BATH	FR5 - 225mm concrete slab	5.7	Open	R1.0	Tiles
Kitchen/Living	FR5 - 225mm concrete slab	31.8	Open	R1.0	Tiles

Ceiling type

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
BED 2	Plasterboard	R4.0	Yes
BED 1	Plasterboard	R4.0	Yes
BATH	Plasterboard	R4.0	Yes
Kitchen/Living	Plasterboard	R4.0	Yes

Ceiling penetrations*

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
BED 2	2	Downlights	50	50	Sealed
BED 1	2	Downlights	50	50	Sealed
BATH	1	Downlights	50	50	Sealed
BATH	1	Exhaust Fans	200	200	Sealed
Kitchen/Living	6	Downlights	50	50	Sealed
Kitchen/Living	1	Exhaust Fans	200	200	Sealed

Ceiling fans

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

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	1.3	0.6	Dark

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 Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

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

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

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

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	



Explanatory Notes

About this report

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

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

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

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Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
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.
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.
COP	Coefficient of performance
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 category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au .
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 air gap 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.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

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.

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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.

*Refer to glossary.



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 Regulatory
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, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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	a 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. UPBZ7SA6GV

Generated on 22 May 2024 using FirstRate5: 5.5.5 (3.22)

Property

Address MAIN, 45 HILLCREST AVE,
GREENACRE, NSW, 2190

Lot/DP 1/21703

NCC Class* Class 1a

Floor/all Floors

Type New Home

Plans

Main plan -

Prepared by -

Construction and environment

Assessed floor area [m²]*	Exposure type
Conditioned* 508.2	suburban
Unconditioned* 153	NatHERS climate zone
Total 661.2	56 Mascot AMO
Garage 138.2	



Accredited assessor

Name nasrin moradi eskandari

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Phone 0406184087

Accreditation No. HERA10095

Assessor Accrediting Organisation HERA

Declaration of interest No

NCC Requirements

NCC provisions Volume 2

State/Territory variation Yes

National Construction Code (NCC) requirements

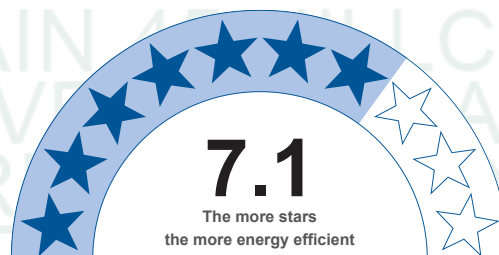
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. 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
HOUSE**
ENERGY RATING SCHEME®

29.1 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	19.5	9.6
Load limits	N/A	N/A
Features determining load limits		
Floor type (lowest conditioned area)		N/A
NCC climate zone 1 or 2		N/A
Outdoor living area		N/A
Outdoor living area ceiling fan		N/A

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 <https://www.fr5.com.au/QRCodeLandIng?PublicId=UPBZ7SA6GV>. When using either link, ensure you are visiting www.fr5.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 NatHERS heating and cooling load limits Standard 2022 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

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

Certificate check

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 who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
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".	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NatHERS heating and cooling load limits for the appropriate climate zone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Refer to glossary.



Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the hot water system meet the additional requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	<input type="checkbox"/>	<input type="checkbox"/>			
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

- ASSESSOR ASSUMED NEIGHBORING / FENCES
- ASSESSOR ASSUMED FLOOR COVERING.
- CEILING FAN ADDED TO ALL BEDROOMS AND DINING AREA
- ASSESSOR ASSUMED CEILING PENETRATION (LIGHTS/ EXHAUST FANS)
- R2.0 ADDED TO GARAGE/ WET AREA INTERNAL WALLS
- R2.5 ADDED BETWEEN FIRST FLOOR
- R 1.0 ADDED TO LIFT AREA WALLS

*Refer to glossary.



Room *schedule*

Room	Zone Type	Area [m ²]
Garage 34	garage	138.2
LIFT	dayTime	3.6
PRAYER ROOM	dayTime	26.2
GUEST BED	bedroom	12.1
WIR	nightTime	4.4
ENS	nightTime	4.2
LDRY	unconditioned	8.9
BUTLER	dayTime	12.7
LIFT	dayTime	3.6
Living 30	living	43.9
Kitchen/Living 31	kitchen	67.1
LOUNGE	dayTime	26.5
PASSAGE	dayTime	58.8
VOID	doubleHeightVoid	26.4
ENS	nightTime	12.1
MASTER BED	bedroom	43.3
WIR	nightTime	18.3
BED 1	bedroom	16.8
ENS	nightTime	6.4
BED 2	bedroom	15
WIR	nightTime	2.6
WIR	nightTime	2.6
ENS	nightTime	4
WIR	nightTime	3
BED 3	bedroom	15.1
LAUNDRY	unconditioned	5.9
WIR	nightTime	5.3
ENS	nightTime	8.4
BED 4	bedroom	19.6
LIFT	dayTime	3.6
WIR	nightTime	3.6
WILL	dayTime	3.3
HALL	dayTime	18.2
BED 5	bedroom	19.9
RUMPUS	living	53.4



Window and glazed door *type and performance*

Default* windows

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

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
BRD-064-02 A	SIG Fixed Lite (67mm) DG 4ET-6Ar-4	2.88	0.59	0.56	0.62
BRD-082-95 A	Signature Awning Window 100 DG 022_AGG MAX Clr lam 6_12_638	3.24	0.22	0.21	0.23
BRD-045-47 A	SIG Sliding Window (100mm) DG 008_AGG PLUS Clr 4_10_4	3.24	0.5	0.48	0.53
BRD-022-64 A	Al Sliding Door DG 6.38CPClr/12Ar/6	3.19	0.5	0.48	0.53

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Garage 34	BRD-064-02 A	W2.6	2100	4500	fixed	0.0	E	No
PRAYER ROOM	BRD-082-95 A	W1.5	2500	800	awning	60.0	N	No
PRAYER ROOM	BRD-082-95 A	W1.4	2500	800	awning	60.0	N	No
PRAYER ROOM	BRD-082-95 A	W1.3	2500	800	awning	60.0	N	No
PRAYER ROOM	BRD-064-02 A	W1.2	2700	2240	fixed	0.0	W	No
GUEST BED	BRD-045-47 A	W1.16	900	2650	sliding	45.0	S	No
ENS	BRD-045-47 A	W1.15	900	1210	sliding	45.0	S	No
LDRY	BRD-045-47 A	W1.14	1200	1810	sliding	45.0	S	No
BUTLER	BRD-045-47 A	W1.13	600	2650	sliding	45.0	S	No
Living 30	BRD-022-64 A	SD 1.1	2100	5815	sliding	60.0	E	No
Living 30	BRD-064-02 A	W1.10	2400	2400	fixed	0.0	W	No
Kitchen/Living 31	BRD-082-95 A	W1.11	2400	800	awning	60.0	E	No
Kitchen/Living 31	BRD-022-64 A	SD 1.3	2100	4470	sliding	60.0	E	No
Kitchen/Living 31	BRD-022-64 A	SD 1.2	2100	3217	sliding	60.0	N	No
Kitchen/Living 31	BRD-082-95 A	W1.12	2400	800	awning	60.0	S	No
Kitchen/Living 31	BRD-082-95 A	W1.11	2400	800	awning	60.0	S	No
LOUNGE	BRD-064-02 A	W1.1	2850	2400	fixed	0.0	W	No
LOUNGE	BRD-064-02 A	W1.18	2850	800	fixed	0.0	S	No
LOUNGE	BRD-064-02 A	W1.17	2850	800	fixed	0.0	S	No
PASSAGE	BRD-064-02 A	W1.9	2400	1500	fixed	0.0	N	No

*Refer to glossary.



PASSAGE	BRD-064-02 A	W1.8	2850	800	fixed	0.0	NE	No
PASSAGE	BRD-064-02 A	W1.7	2850	800	fixed	0.0	N	No
PASSAGE	BRD-064-02 A	W1.6	2850	800	fixed	0.0	N	No
VOID	BRD-064-02 A	W1.1	2850	2400	fixed	0.0	W	No
VOID	BRD-064-02 A	W1.18	2850	800	fixed	0.0	S	No
VOID	BRD-064-02 A	W1.17	2850	800	fixed	0.0	S	No
ENS	BRD-045-47 A	W1.41	600	970	sliding	45.0	S	No
ENS	BRD-045-47 A	W1.40	600	970	sliding	45.0	S	No
MASTER BED	BRD-064-02 A	W1.22	2500	800	fixed	0.0	W	No
MASTER BED	BRD-064-02 A	W1.21	2500	800	fixed	0.0	W	No
MASTER BED	BRD-064-02 A	W1.20	2500	800	fixed	0.0	W	No
MASTER BED	BRD-064-02 A	W1.19	2500	2240	fixed	0.0	W	No
MASTER BED	BRD-082-95 A	W1.24	2500	800	awning	10.0	N	No
MASTER BED	BRD-082-95 A	W1.23	2500	800	awning	10.0	N	No
WIR	BRD-082-95 A	W1.25	2500	800	awning	60.0	N	No
BED 1	BRD-045-47 A	W1.37	900	2650	sliding	10.0	S	No
ENS	BRD-045-47 A	W1.36	600	970	sliding	45.0	S	No
ENS	BRD-045-47 A	W1.35	600	970	sliding	45.0	S	No
BED 2	BRD-045-47 A	W1.34	900	2650	sliding	10.0	S	No
ENS	BRD-045-47 A	W1.33	600	970	sliding	45.0	E	No
BED 3	BRD-045-47 A	W1.31	2100	2650	sliding	60.0	N	No
BED 3	BRD-045-47 A	W1.32	2100	2660	sliding	10.0	E	No
LAUNDRY	BRD-082-95 A	W1.31	2100	610	awning	60.0	E	No
ENS	BRD-045-47 A	W1.28	900	1570	sliding	45.0	N	No
BED 4	BRD-045-47 A	W1.30	900	2650	sliding	10.0	E	No
BED 4	BRD-045-47 A	W1.29	900	2650	sliding	10.0	N	No
BED 5	BRD-045-47 A	W1.27	900	2650	sliding	10.0	N	No
BED 5	BRD-064-02 A	W1.26	2400	1500	fixed	0.0	W	No
RUMPUS	BRD-082-95 A	W1.39	2100	1210	awning	60.0	S	No
RUMPUS	BRD-082-95 A	W1.38	2100	1210	awning	60.0	S	No
RUMPUS	BRD-064-02 A	W1.8	2850	800	fixed	0.0	NE	No
RUMPUS	BRD-064-02 A	W1.7	2850	800	fixed	0.0	N	No
RUMPUS	BRD-064-02 A	W1.6	2850	800	fixed	0.0	N	No

Roof window* type and performance value

Default* roof windows

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



Custom* roof windows

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

Roof window* schedule

Location	Window ID	Window no.	Opening %	Area [m²]	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]	Orient- ation	Outdoor shade	Diffuser
No Data Available							

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage 34	2340	6000	100.0	N
LOUNGE	2340	1528	100.0	W
VOID	2340	1481	100.0	W

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	FR5 - Concrete Block Hollow 190mm	0.5	Medium	Cellulose fibre (loose fill): R1.0 (R1.0)	No
2	FR5 - Earth Retaining Wall	0.5	Medium		No
3	FR5 - Brick Cavity	0.5	Medium	Glass fibre batt: R1.0 (R1.0)	No

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Garage 34	1	3040	6981	N	3482	Yes
Garage 34	1	3040	2215	N	3439	Yes
Garage 34	1	3040	2529	W	0	Yes
Garage 34	1	3040	6935	N	2565	Yes



Garage 34	2	3040	6411	W	0	No
Garage 34	2	3040	17960	S	0	No
Garage 34	1	3040	8891	E	3847	Yes
LIFT	1	3040	1590	N	3487	Yes
PRAYER ROOM	3	2700	1007	E	0	Yes
PRAYER ROOM	3	2700	8014	N	3790	Yes
PRAYER ROOM	3	2700	3123	W	0	Yes
PRAYER ROOM	3	2700	788	S	0	Yes
PRAYER ROOM	3	2700	158	W	0	Yes
GUEST BED	3	2700	596	E	0	Yes
GUEST BED	3	2700	3417	S	0	Yes
WIR	3	2700	1502	S	0	Yes
ENS	3	2700	1844	S	0	Yes
LDRY	3	2700	3295	S	0	Yes
BUTLER	3	2700	608	W	0	Yes
BUTLER	3	2700	3901	S	0	Yes
LIFT	3	2700	1594	N	3811	Yes
Living 30	3	2700	6283	E	6680	Yes
Living 30	3	2700	6986	N	0	Yes
Living 30	3	2700	3768	W	4724	Yes
Kitchen/Living 31	3	2700	5710	E	2886	Yes
Kitchen/Living 31	3	2700	3830	N	6996	Yes
Kitchen/Living 31	3	2700	612	E	0	Yes
Kitchen/Living 31	3	2700	10796	S	0	Yes
LOUNGE	3	2700	2071	W	0	Yes
LOUNGE	3	2700	1750	N	0	Yes
LOUNGE	3	2700	3456	W	0	Yes
LOUNGE	3	2700	5453	S	0	Yes
PASSAGE	3	2700	2213	N	3816	Yes
PASSAGE	3	2700	965	W	0	Yes
PASSAGE	3	2700	1042	N	0	Yes
PASSAGE	3	2700	712	NE	0	Yes
PASSAGE	3	2700	799	NE	0	Yes
PASSAGE	3	2700	942	NE	0	Yes
PASSAGE	3	2700	797	N	0	Yes
PASSAGE	3	2700	933	N	0	Yes
PASSAGE	3	2700	810	N	0	Yes
PASSAGE	3	2700	693	NW	0	Yes
PASSAGE	3	2700	851	N	0	Yes



VOID	3	2700	3446	W	0	Yes
VOID	3	2700	5466	S	0	Yes
VOID	3	2700	2075	W	0	Yes
VOID	3	2700	1800	N	0	Yes
ENS	3	2700	3398	S	0	Yes
ENS	3	2700	606	E	0	Yes
MASTER BED	3	2700	6872	W	0	Yes
MASTER BED	3	2700	808	S	0	Yes
MASTER BED	3	2700	157	W	0	Yes
MASTER BED	3	2700	4489	N	0	No
WIR	3	2700	3387	N	0	Yes
WIR	3	2700	4744	E	0	Yes
BED 1	3	2700	599	W	0	Yes
BED 1	3	2700	3995	S	0	Yes
ENS	3	2700	2900	S	0	Yes
BED 2	3	2700	3571	S	0	Yes
ENS	3	2700	1813	E	0	No
ENS	3	2700	2199	S	0	Yes
WIR	3	2700	1698	S	0	Yes
BED 3	3	2700	3674	N	1684	Yes
BED 3	3	2700	195	W	0	Yes
BED 3	3	2700	102	N	0	Yes
BED 3	3	2700	3801	E	0	No
LAUNDRY	3	2700	1973	E	3777	Yes
ENS	3	2700	2304	N	0	Yes
BED 4	3	2700	4976	E	0	Yes
BED 4	3	2700	3360	N	0	Yes
WIR	3	2700	965	W	0	Yes
BED 5	3	2700	5096	N	0	Yes
BED 5	3	2700	993	W	0	Yes
BED 5	3	2700	698	N	0	Yes
BED 5	3	2700	1714	W	0	Yes
BED 5	3	2700	698	S	0	Yes
BED 5	3	2700	956	W	0	Yes
RUMPUS	3	2700	6825	S	0	Yes
RUMPUS	3	2700	775	N	0	Yes
RUMPUS	3	2700	712	NE	0	Yes
RUMPUS	3	2700	801	NE	0	No
RUMPUS	3	2700	934	NE	0	Yes



RUMPUS	3	2700	815	N	0	Yes
RUMPUS	3	2700	934	N	0	Yes
RUMPUS	3	2700	809	N	0	Yes
RUMPUS	3	2700	701	NW	0	Yes
RUMPUS	3	2700	798	N	0	Yes

Internal wall type

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Concrete Block Hollow 190mm	56	Cellulose fibre (loose fill): R1.0 (R1.0)
2	FR5 - Internal Plasterboard Stud Wall	262.1	
3	FR5 - Internal Plasterboard Stud Wall	125.1	Glass fibre batt: R2.0 (R2.0)
4	FR5 - Brick Cavity	42.4	Glass fibre batt: R1.0 (R1.0)

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage 34	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	138.2	Enclosed	R0.0	none
LIFT	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	3.6	Enclosed	R0.0	none
PRAYER ROOM	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	26.2	Enclosed	R0.0	Tiles
GUEST BED	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	12.1	Enclosed	R0.0	Carpet
WIR	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	0.4	Enclosed	R0.0	Carpet
WIR	FR5 - 225mm concrete slab	4	Enclosed	R2.5	Carpet
ENS	FR5 - 225mm concrete slab	4.2	Enclosed	R2.5	Tiles
LDRY	FR5 - 225mm concrete slab	8.9	Enclosed	R2.5	Tiles
BUTLER	FR5 - 225mm concrete slab	12.7	Enclosed	R2.5	Tiles
LIFT	FR5 - 225mm concrete slab	3.6	Enclosed	R2.5	none
Living 30	FR5 - 225mm concrete slab	26.4	Elevated	R2.5	Tiles
Living 30	FR5 - 225mm concrete slab	17.5	Enclosed	R2.5	Tiles
Kitchen/Living 31	FR5 - 225mm concrete slab	45.4	Enclosed	R2.5	Tiles
Kitchen/Living 31	FR5 - 225mm concrete slab	21.8	Elevated	R2.5	Tiles
LOUNGE	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	26.5	Enclosed	R0.0	Tiles
PASSAGE	FR5 - 225mm concrete slab	14.2	Elevated	R2.5	Tiles
PASSAGE	FR5 - 225mm waffle pod, 85mm concrete (R0.60)	6.6	Enclosed	R0.0	Tiles
PASSAGE	FR5 - 225mm concrete slab	38	Enclosed	R2.5	Tiles
VOID	No Floor	26.4	Enclosed	R2.5	No Floor



ENS	FR5 - 225mm concrete slab	12.1	Enclosed	R2.5	Tiles
MASTER BED	FR5 - 225mm concrete slab	26.5	Enclosed	R2.5	Carpet
MASTER BED	FR5 - 225mm concrete slab	16.8	Elevated	R2.5	Carpet
WIR	FR5 - 225mm concrete slab	5.7	Enclosed	R2.5	Carpet
WIR	FR5 - 225mm concrete slab	12.7	Elevated	R2.5	Carpet
BED 1	FR5 - 225mm concrete slab	16.8	Enclosed	R2.5	Carpet
ENS	FR5 - 225mm concrete slab	6.4	Enclosed	R2.5	Tiles
BED 2	FR5 - 225mm concrete slab	15	Enclosed	R2.5	Carpet
WIR	FR5 - 225mm concrete slab	2.6	Enclosed	R2.5	Carpet
WIR	FR5 - 225mm concrete slab	2.6	Enclosed	R2.5	Carpet
ENS	FR5 - 225mm concrete slab	4	Enclosed	R2.5	Tiles
WIR	FR5 - 225mm concrete slab	3	Enclosed	R2.5	Carpet
BED 3	FR5 - 225mm concrete slab	15.1	Enclosed	R2.5	Carpet
LAUNDRY	FR5 - 225mm concrete slab	5.9	Enclosed	R2.5	Tiles
WIR	FR5 - 225mm concrete slab	5.3	Enclosed	R2.5	Carpet
ENS	FR5 - 225mm concrete slab	8.4	Enclosed	R2.5	Tiles
BED 4	FR5 - 225mm concrete slab	19.6	Enclosed	R2.5	Carpet
LIFT	FR5 - 225mm concrete slab	3.6	Enclosed	R2.5	none
WIR	FR5 - 225mm concrete slab	3.6	Enclosed	R2.5	Carpet
WILL	FR5 - 225mm concrete slab	3.3	Enclosed	R2.5	Tiles
HALL	FR5 - 225mm concrete slab	18.2	Enclosed	R2.5	Tiles
BED 5	FR5 - 225mm concrete slab	15.9	Elevated	R2.5	Carpet
BED 5	FR5 - 225mm concrete slab	4	Enclosed	R2.5	Carpet
RUMPUS	FR5 - 225mm concrete slab	53.4	Enclosed	R2.5	Tiles

Ceiling type

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Garage 34	FR5 - 225mm concrete slab	R2.5	No
LIFT	FR5 - 225mm concrete slab	R2.5	No
PRAYER ROOM	FR5 - 225mm concrete slab	R2.5	No
GUEST BED	FR5 - 225mm concrete slab	R2.5	No
WIR	FR5 - 225mm concrete slab	R2.5	No
WIR	FR5 - 225mm concrete slab	R2.5	No
ENS	FR5 - 225mm concrete slab	R2.5	No

*Refer to glossary.



LDRY	FR5 - 225mm concrete slab	R2.5	No
BUTLER	FR5 - 225mm concrete slab	R2.5	No
LIFT	FR5 - 225mm concrete slab	R2.5	No
Living 30	FR5 - 225mm concrete slab	R2.5	No
Living 30	FR5 - 225mm concrete slab	R2.5	No
Kitchen/Living 31	FR5 - 225mm concrete slab	R2.5	No
Kitchen/Living 31	FR5 - 225mm concrete slab	R2.5	No
LOUNGE	FR5 - 225mm concrete slab Lined	R2.5	No
PASSAGE	FR5 - 225mm concrete slab	R2.5	No
PASSAGE	FR5 - 225mm concrete slab	R2.5	No
PASSAGE	FR5 - 225mm concrete slab	R2.5	No
VOID	Plasterboard	R6.0	Yes
ENS	Plasterboard	R6.0	Yes
MASTER BED	Plasterboard	R6.0	Yes
MASTER BED	Plasterboard	R6.0	Yes
WIR	Plasterboard	R6.0	Yes
WIR	Plasterboard	R6.0	Yes
BED 1	Plasterboard	R6.0	Yes
ENS	Plasterboard	R6.0	Yes
BED 2	Plasterboard	R6.0	Yes
WIR	Plasterboard	R6.0	Yes
WIR	Plasterboard	R6.0	Yes
ENS	Plasterboard	R6.0	Yes
WIR	Plasterboard	R6.0	Yes
BED 3	Plasterboard	R6.0	Yes
LAUNDRY	Plasterboard	R6.0	Yes
WIR	Plasterboard	R6.0	Yes
ENS	Plasterboard	R6.0	Yes
BED 4	Plasterboard	R6.0	Yes
LIFT	Plasterboard	R6.0	Yes
WIR	Plasterboard	R6.0	Yes
WILL	Plasterboard	R6.0	Yes



HALL	Plasterboard	R6.0	Yes
BED 5	Plasterboard	R6.0	Yes
BED 5	Plasterboard	R6.0	Yes
RUMPUS	Plasterboard	R6.0	Yes

Ceiling penetrations*

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
PRAYER ROOM	4	Downlights	50	50	Sealed
GUEST BED	2	Downlights	50	50	Sealed
WIR	1	Downlights	50	50	Sealed
ENS	1	Exhaust Fans	200	200	Sealed
ENS	1	Downlights	50	50	Sealed
LDRY	1	Downlights	50	50	Sealed
BUTLER	1	Exhaust Fans	200	200	Sealed
BUTLER	1	Downlights	50	50	Sealed
Living 30	4	Downlights	50	50	Sealed
Kitchen/Living 31	1	Exhaust Fans	200	200	Sealed
Kitchen/Living 31	8	Downlights	50	50	Sealed
LOUNGE	2	Downlights	50	50	Sealed
PASSAGE	4	Downlights	50	50	Sealed
ENS	1	Downlights	50	50	Sealed
ENS	1	Exhaust Fans	200	200	Sealed
MASTER BED	4	Downlights	50	50	Sealed
WIR	1	Downlights	50	50	Sealed
BED 1	2	Downlights	50	50	Sealed
ENS	1	Downlights	50	50	Sealed
ENS	1	Exhaust Fans	200	200	Sealed
BED 2	2	Downlights	50	50	Sealed
WIR	1	Downlights	50	50	Sealed
WIR	1	Downlights	50	50	Sealed
ENS	1	Downlights	50	50	Sealed
ENS	1	Exhaust Fans	200	200	Sealed
WIR	1	Downlights	50	50	Sealed
BED 3	2	Downlights	50	50	Sealed
LAUNDRY	1	Downlights	50	50	Sealed
LAUNDRY	1	Exhaust Fans	200	200	Sealed
WIR	1	Downlights	50	50	Sealed
ENS	1	Downlights	50	50	Sealed
ENS	1	Exhaust Fans	200	200	Sealed

*Refer to glossary.



BED 4	2	Downlights	50	50	Sealed
WIR	1	Downlights	50	50	Sealed
WILL	1	Downlights	50	50	Sealed
BED 5	2	Downlights	50	50	Sealed
RUMPUS	6	Downlights	50	50	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
PRAYER ROOM	1	1200
GUEST BED	1	900
Living 30	1	1200
Kitchen/Living 31	1	1200
LOUNGE	1	1200
PASSAGE	1	1200
MASTER BED	1	1200
BED 1	1	1200
BED 2	1	1200
BED 3	1	1200
BED 4	1	1200
BED 5	1	1200
RUMPUS	1	1200

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	1.3	0.6	Dark

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 Whole of Home performance assessment conducted for this certificate.				

Heating system



Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

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

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

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

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	



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.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
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.
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.
COP	Coefficient of performance
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 category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au .
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 air gap 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.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

*Refer to glossary.



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 Regulatory
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, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

*Refer to glossary.