### Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. #HR-XJKO4F-01

Generated on 11 Mar 2024 using Hero 3.1.0.6 (Chenath v3.23)

Granny 1A, 197 Wellington Road.

### Property

Address Lot/DP NCC Class\* Floor/all Floors Type

Chester Hill, NSW, 2162 19/-/DP35673 1a 1 of 1 floors New

### Plans

Main Plan Prepared by Issued for DA Submission dated 21/02 /2024 ALI DAMAJ

### **Construction and environment**

Assessed floor a	rea (m²)*
Conditioned*	44.0
Unconditioned*	3.9
Total	47.9
Garage	0.0

Exposure Type Suburban NatHERS climate zone 56 - Mascot AMO



### Accredited assessor

Name
Business name
Email
Phone
Accreditation No.
Assessor Accrediting
Organisation
Declaration of interest

Oanh Thi Kim Trinh Thermal Seven krissi@thermalseven.com.au +61 428054389 DMN/22/2110

No Conflict of Interest

DMN

### **NCC Requirements**

BCA provisions

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 J2D2(2)(a) and (3) of NCC Volume One.

Volume 2

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.

Thermal performance star rating

### NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars

the more energy efficient

## 29.8 MJ/m<sup>2</sup>

R

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/m<sup>2</sup>) Limits taken from ABCB Standard 2022

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	13.7	16.1
Load limits	25	18

#### Features determining load limits

Floor type		
(lowest con	ditioned area)	CSO
NCC climat	e zone 1 or 2	Ν
Outdoor livi	ng area	Ν
Outdoor livi	ng area ceiling fan	Ν

# 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 http://www.hero-software.com au/pdf/HR-XJKO4F-01. When using either link, ensure you are visiting http://www.hero-software. com.au





Note, variations and additions to the NCC energy efficiency requirements Predicted Whole of Home annual may apply in some states and territories.

### 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 and 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: 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.

## impact by appliance

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

#### Enerav use:



Greenhouse gas emissions:

Cost:





7.0 Star	Rating	as of	11	Mar	2024
1.0 0.0	ruung	40.01		wich	2021



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	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Note: The boxes indicate when and who should check each item. It is not mandatory to complete this checklist.	Asset	Conse surve	Builde	Conse surve	Occul
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS- stamped plans or as installed match what is shown in <i>Window and glazed door</i> <i>schedule</i> ' and <i>'Roof window schedule</i> ' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the <i>Window and glazed door type and performance</i> ' and <i>'Roof window type and performance</i> ' 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 <i>'External wall type table'</i> 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 <i>'Floor type'</i> 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 <i>'Ceiling type'</i> table on this Certifi cate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the <i>'Roof type'</i> 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 on the NatHERS-stamped plans?					

#### 7.0 Star Rating as of 11 Mar 2024



Certificate check	Approval	stage	Construc stage	tion	
Continued	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?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Home	e assessr	nent is no	ot 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 ' <i>Appliance schedule</i> ' 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 ' <i>Appliance schedule</i> ' 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 ' <i>Appliance schedule</i> ' 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 ' <i>Appliance schedule</i> ' 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 NatHE	RS asses	ssment)			
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. A include, but are not limited to: condensation, structural and fire safety requirements energy efficiency requirements.	dditional re and any st	quirements ate or territ	that must ory variatio	also be sat	isfied ICC



### Room schedule

Room	Zone Type	Area (m²)
Bedroom 2	Bedroom	8.91
Bedroom 1	Bedroom	8.51
Laundry	Day Time	0.98
Bath	Unconditioned	3.85
Kitchen/Living	Kitchen/Living	21.21
Entry/Hall	Day Time	4.41

### Window and glazed door type and performance

#### **Default\* windows**

Window ID	Window Description	Maximum SHGC	SHGC*	SHGC substitution * tolerance ranges		
		U-value*		lower limit	upper limit	
ALM-003-01 A	Aluminium A DG Air Fill Clear-Clear	4.80	0.51	0.48	0.54	

#### Custom\* windows

Window ID Window Description	Window Description	Maximum		SHGC substitution tolerance ranges	
		U-value*		lower limit	upper limit
A&L-013-05 A	AI Sliding Door DG 4/10Ar/4EA	2.79	0.60	0.57	0.63
BRD-102-05 A	Signature Sliding Window 100TB DG 4mmSt/12Ar/4mmSt	2.48	0.28	0.27	0.29

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bath	ALM-003-01 A	W09	900	600	Awning	45	W	None
Bedroom 1	A&L-013-05 A	W07	900	2100	Sliding	45	Ν	None
Bedroom 2	A&L-013-05 A	W07	900	2100	Sliding	45	Е	None
Kitchen/Living	BRD-102-05 A	SD-04	2020	3000	Sliding Door	45	W	None
Kitchen/Living	A&L-013-05 A	W08	900	1200	Sliding	45	Е	None
Kitchen/Living	A&L-013-05 A	W07	900	2100	Sliding	45	S	None



### Roof window type and performance value

#### Default\* roof windows

						M	_	SHGC sub	
Window ID	Windo	ow Descriptio	n			Maximun U-value*	SHGC*	tolerance	ranges upper limit
None									
Custom* roc	of windows								
Window ID	Windo	ow Descriptio	n			Maximum	<sup>1</sup> SHGC*	SHGC sub tolerance	
						U-value*		lower limit	upper limit
None									
Roof wir	ndow sch	nedule							
Location	Winc ID	wot	Window no.	Opening %	Height (mm)	Width (mm)	Orient- ation	Outdoor shade	Indoor shade
None			110.	70	()	()	ution	Shade	Shade
Skulight	tuno ono	loorform	2222						
Skylight ID	type and	l performa	Skylight des	scription					
None									
Skyliaht	schedule	2							
	Schedule Skylight	Skylight	Skylight shaft			Outdoor	Diffuser	Shaft	
Location			Skylight shaft length (mm)			Outdoor shade	Diffuser	•	ctance
Location None	Skylight ID	Skylight No.					Diffuser	•	ctance
Location None External	Skylight	Skylight No.	length (mm)	(m²) a	ation	shade		Reflec	
Location None External Location	Skylight ID	Skylight No.	length (mm) Height	(m²) a	ation Width (mr	shade n) O	pening %	Reflec	ctance tation
Location None	Skylight ID	Skylight No.	length (mm)	(m²) a	ation	shade	pening %	Reflec	
Location None External Location Entry/Hall	Skylight ID	Skylight No. hedule	length (mm) Height	(m²) a	ation Width (mr	shade n) O	pening %	Reflec Orien N	tation
Location None External Location Entry/Hall External	Skylight ID door SC	Skylight No. hedule	length (mm) Height	(m²) a	Width (mr 820 Solar	shade m) O 90	pening %	Reflec	tation
Location None External Location Entry/Hall External Wall ID REND-250 -E	Skylight ID door scl wall type	Skylight No. hedule Wall Type 250mm Ren	length (mm) Height	(m²) ;	Width (mr 820 Solar absor	shade m) O 90 rptance C	pening % ) /all	Reflec Orien N Bulk insulation	tation Reflectiv wall
Location None External Location Entry/Hall External Wall ID REND-250 -E NONREFL-C	Skylight ID door scl wall type	Skylight No. hedule Wall Type 250mm Ren- with Non-Re	length (mm) Height 2100	(m²) ;	Width (mr 820 Solar absor	shade m) O 90 rptance C	pening % ) /all olour	Reflect Orien N Bulk insulation (R-value)	tation Reflectiv wall wrap*
Location None External Location Entry/Hall External Wall ID REND-250 -E NONREFL-C	Skylight ID door sch wall type 3V- AV wall sch	Skylight No. hedule Wall Type 250mm Ren- with Non-Re	length (mm) Height 2100	(m²) ;	Width (mr 820 Solar absor	shade m) O 90 rptance C	pening % ) /all olour edium Horizo shadir	Reflect Orien N Bulk insulation (R-value) 2.00	tation Reflectiv wall wrap*

\* Refer to glossary.

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### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bath	REND-250 -BV-NONREFL-CAV	2300	1100	Ν	2450	Yes
Bedroom 1	REND-250 -BV-NONREFL-CAV	2300	2390	Ν		Yes
Bedroom 1	REND-250 -BV-NONREFL-CAV	2300	3500	Е		Yes
Bedroom 1	REND-250 -BV-NONREFL-CAV	2300	147	Ν		Yes
Bedroom 1	REND-250 -BV-NONREFL-CAV	2300	2500	W	2305	Yes
Bedroom 2	REND-250 -BV-NONREFL-CAV	2300	3500	Е		Yes
Entry/Hall	REND-250 -BV-NONREFL-CAV	2300	898	Ν	2450	Yes
Kitchen/Living	REND-250 -BV-NONREFL-CAV	2300	4333	W		Yes
Kitchen/Living	REND-250 -BV-NONREFL-CAV	2300	4534	Е		Yes
Kitchen/Living	REND-250 -BV-NONREFL-CAV	2300	4722	S		Yes
Laundry	REND-250 -BV-NONREFL-CAV	2300	1217	W		Yes

### Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	31.4	0.00

### Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bath	CSOG-100: Concrete Slab on Ground (100mm)	3.9	N/A	0.00	Tile (8mm)
Bedroom 1	CSOG-100: Concrete Slab on Ground (100mm)	8.5	N/A	0.00	Carpet
Bedroom 2	CSOG-100: Concrete Slab on Ground (100mm)	8.9	N/A	0.00	Carpet
Entry/Hall	CSOG-100: Concrete Slab on Ground (100mm)	4.4	N/A	0.00	Tile (8mm)
Kitchen/Living	CSOG-100: Concrete Slab on Ground (100mm)	21.2	N/A	0.00	Tile (8mm)
Laundry	CSOG-100: Concrete Slab on Ground (100mm)	1.0	N/A	0.00	Tile (8mm)

### Ceiling type

		Bulk	Reflective
Location	Construction	insulation	
		(R-value)	wrap*

\* Refer to glossary.



### Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bath	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	2.00	Yes
Bedroom 1	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	2.00	Yes
Bedroom 2	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	2.00	Yes
Entry/Hall	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	2.00	Yes
Kitchen/Living	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	2.00	Yes
Laundry	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	2.00	Yes

### **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
Bath	1	Downlight	200	Sealed
Bath	1	Exhaust Fan	350	Sealed
Bedroom 1	2	Downlight	200	Sealed
Bedroom 2	2	Downlight	200	Sealed
Entry/Hall	1	Downlight	200	Sealed
Kitchen/Living	9	Downlight	200	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Downlight	200	Sealed

### **Ceiling** fans

Location	Quantity	Diameter (mm)
None		

### Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	1.30	0.73	Dark (Monument)

### Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions	Frame spacing	Steel thickness	Thermal Break	
	(height x width, mm)	(mm)	(BMT mm)	(R-value)	

\* Refer to glossary.

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### 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)	
None					

### Appliance schedule

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

#### **Cooling system**

Туре	Location		Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data					
Heating system					
Туре	Location		Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				-	
Hot water system		Hot	Minim	um	Assessed
Туре	Fuel type	Water CER Zone	efficie STC	ncy /	daily load [litres]
No Whole of Home Data					
Pool / spa equipment		Minimum			
Туре	Fuel type	efficiency performar		Recomm capacity	ended
No Whole of Home Data					
Onsite Renewa	ble Energy schedule				

Туре	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

### **Battery** schedule

 Type
 Storage Capacity [kWh]

 No Whole of Home Data
 Storage Capacity [kWh]



### **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

### Glossary

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.

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 document	
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	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 - 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 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.	
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.	
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 suc 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* (eq eaves and balconies)	

\* Refer to glossary.