

Nationwide House Energy Rating Scheme

NatHERS Certificate No. 0006801849

Generated on 18 Nov 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address 73 Wimbeldon Avenue , North Narrabeen
, NSW , 2101

Lot/DP 17/17768

NCC Class* 1A

Type New Dwelling

Plans

Main Plan Peter Jackie Loveday

Prepared by Peter Jackie Loveday

Construction and environment

Assessed floor area (m ² *)	Exposure Type
Conditioned*	Exposed
Unconditioned*	
Total	NatHERS climate zone
Garage	56



Accredited assessor

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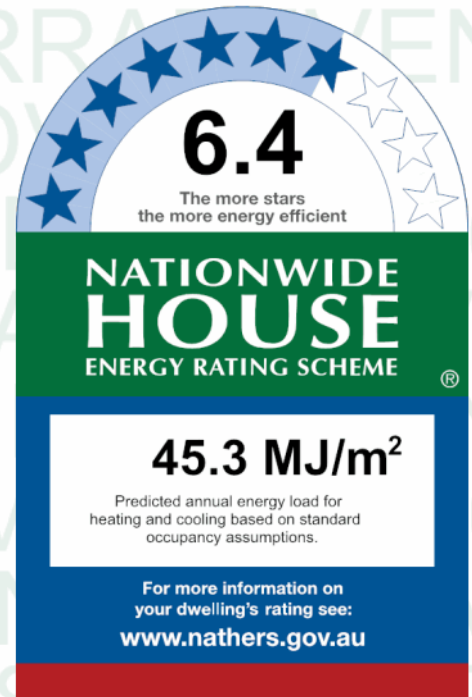
Declaration of interest Declaration completed: no conflicts

National Construction Code (NCC) requirements

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

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

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



Thermal performance

Heating	Cooling
27.5 MJ/m ²	17.8 MJ/m ²

About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

Verification

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

When using either link, ensure you are visiting hstar.com.au



Certificate check

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

Genuine certificate

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

Ceiling penetrations*

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

Windows

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

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73
ALM-006-01 A	ALM-006-01 A Aluminium B DG Argon Fill Clear-Clear	4.5	0.61	0.58	0.64
ALM-005-01 A	ALM-005-01 A Aluminium A DG Argon Fill Clear-Clear	4.5	0.50	0.48	0.53

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*
Garage 1	ALM-002-01 A	n/a	600	4800	n/a	45	S	No
Kitchen/Living	ALM-006-01 A	n/a	2400	300	n/a	00	E	No
Kitchen/Living	ALM-006-01 A	n/a	300	1270	n/a	00	E	No
Bedroom 5	ALM-005-01 A	n/a	2400	1000	n/a	33	N	No
Bedroom 5	ALM-005-01 A	n/a	1200	600	n/a	90	N	No
Bedroom 5	ALM-005-01 A	n/a	1200	600	n/a	90	N	No
Bedroom 5	ALM-005-01 A	n/a	2400	1443	n/a	90	E	No
Bedroom 5	ALM-005-01 A	n/a	1100	500	n/a	90	E	No
Bed 5 Ens	ALM-005-01 A	n/a	600	600	n/a	90	N	No
Study	ALM-005-01 A	n/a	1400	2000	n/a	60	N	No
Kitchen/Living	ALM-006-01 A	n/a	600	4280	n/a	00	S	No
Kitchen/Living	ALM-006-01 A	n/a	1550	1900	n/a	00	S	No
Kitchen/Living	ALM-006-01 A	n/a	2700	7336	n/a	45	W	No
Kitchen/Living	ALM-006-01 A	n/a	2700	1850	n/a	45	N	No
Kitchen/Living	ALM-006-01 A	n/a	2700	3425	n/a	60	W	No
Kitchen/Living	ALM-005-01 A	n/a	1400	850	n/a	90	N	No
Kitchen/Living	ALM-005-01 A	n/a	1400	850	n/a	90	N	No
Pantry	ALM-005-01 A	n/a	600	1800	n/a	90	S	No
Laundry	ALM-005-01 A	n/a	1200	1200	n/a	90	S	No
Rumpus	ALM-006-01 A	n/a	2100	1000	n/a	00	N	No
Rumpus	ALM-006-01 A	n/a	2380	789	n/a	00	E	No
Rumpus	ALM-005-01 A	n/a	2380	2300	n/a	10	N	No
Rumpus	ALM-006-01 A	n/a	2400	3500	n/a	60	W	No
Rumpus	ALM-006-01 A	n/a	780	3500	n/a	00	W	No
Master Bed	ALM-006-01 A	n/a	2400	4050	n/a	60	W	No
Master Ens	ALM-005-01 A	n/a	600	900	n/a	10	S	No
Master Ens	ALM-005-01 A	n/a	1750	1200	n/a	10	S	No
Master Ens	ALM-006-01 A	n/a	1750	1800	n/a	00	W	No
Bedroom 2	ALM-005-01 A	n/a	1400	2400	n/a	10	S	No
Bathroom	ALM-005-01 A	n/a	900	1200	n/a	10	S	No
Bedroom 3	ALM-005-01 A	n/a	2400	1800	n/a	90	E	No
Bedroom 3	ALM-006-01 A	n/a	2400	900	n/a	00	E	No
Bedroom 3	ALM-006-01 A	n/a	2400	900	n/a	00	E	No
Bedroom 3	ALM-005-01 A	n/a	1400	850	n/a	10	S	No
Bedroom 3	ALM-005-01 A	n/a	1400	850	n/a	10	S	No
Bedroom 4	ALM-005-01 A	n/a	1700	850	n/a	10	N	No
Bedroom 4	ALM-005-01 A	n/a	1400	850	n/a	10	N	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 4	ALM-005-01 A	n/a	2400	1800	n/a	90	E	No
Bedroom 4	ALM-006-01 A	n/a	2400	2700	n/a	00	E	No
Bedroom 4	ALM-006-01 A	n/a	2400	600	n/a	00	E	No
Bed 4 Ens	ALM-005-01 A	n/a	900	900	n/a	10	N	No

Roof window type and performance

Default* roof windows

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

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
VEL-010-01 W	Glass	2.5	0.21	0.20	0.22

Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
Rumpus	VEL-010-01 W	n/a	90	6980	780	N	No	No
Rumpus	VEL-010-01 W	n/a	90	6980	780	N	No	No

Skylight type and performance

Skylight ID	Skylight description
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No Data Available

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m ²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage 1	2600	6000	90	E
Kitchen/Living	2340	820	90	E

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Concrete block, lined	0.30	Light	Bulk Insulation R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage 1	EW-1	2700	1600	N	6300	YES
Garage 1	EW-1	2700	6700	E	500	NO
Garage 1	EW-1	2700	6895	S	400	NO
Kitchen/Living	EW-1	2700	1490	E	2100	YES
Bedroom 5	EW-1	2700	4595	N	800	NO
Bedroom 5	EW-1	2700	4795	E	2100	NO
Bed 5 Ens	EW-1	2700	3590	N	800	NO
Study	EW-1	2700	3590	N	800	NO
Kitchen/Living	EW-1	2700	9395	S	400	NO
Kitchen/Living	EW-1	2700	8200	W	300	NO
Kitchen/Living	EW-1	2700	2400	N	5600	YES
Kitchen/Living	EW-1	2700	4800	W	2700	YES
Kitchen/Living	EW-1	2700	4395	N	800	NO
Pantry	EW-1	2700	1990	S	400	NO
Laundry	EW-1	2700	1890	S	400	NO
Rumpus	EW-1	2700	7000	N	700	NO
Rumpus	EW-1	2900	1000	E	10800	YES
Rumpus	EW-1	3000	2695	N	1700	YES
Rumpus	EW-1	3500	4795	W	2400	YES
Master Bed	EW-1	2700	5095	W	900	NO
Master Bed	EW-1	2700	1500	N	5500	YES
Master Ens	EW-1	2700	6495	S	500	NO
Master Ens	EW-1	2700	1995	W	900	NO
Bedroom 2	EW-1	2700	3690	S	500	NO
Bathroom	EW-1	2700	2890	S	500	NO
Bedroom 3	EW-1	2700	5695	E	1600	NO
Bedroom 3	EW-1	2700	4595	S	500	NO
Bedroom 4	EW-1	2700	4395	N	700	NO
Bedroom 4	EW-1	2700	6195	E	1600	NO
Bed 4 Ens	EW-1	2700	1000	W	12100	YES
Bed 4 Ens	EW-1	2700	2095	N	700	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		326.00	No insulation

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage 1	Suspended Concrete Slab 150mm	43.10	Enclosed	Bulk Insulation in Contact with Floor R1.2	Bare
Kitchen/Living	Suspended Concrete Slab 150mm	29.50	Enclosed	Bulk Insulation in Contact with Floor R1.2	Ceramic Tiles 8mm
Bedroom 5	Suspended Concrete Slab 150mm	26.20	Enclosed	Bulk Insulation in Contact with Floor R1.2	Carpet+Rubber Underlay 18mm
Bed 5 Ens	Suspended Concrete Slab 150mm	5.70	Enclosed	Bulk Insulation in Contact with Floor R1.2	Ceramic Tiles 8mm
Study	Suspended Concrete Slab 150mm	10.40	Enclosed	Bulk Insulation in Contact with Floor R1.2	Ceramic Tiles 8mm
Kitchen/Living	Suspended Concrete Slab 150mm	100.10	Enclosed	Bulk Insulation in Contact with Floor R1.2	Ceramic Tiles 8mm
Pantry	Suspended Concrete Slab 150mm	9.70	Enclosed	Bulk Insulation in Contact with Floor R1.2	Ceramic Tiles 8mm
Laundry	Suspended Concrete Slab 150mm	8.20	Enclosed	Bulk Insulation in Contact with Floor R1.2	Ceramic Tiles 8mm
WC	Suspended Concrete Slab 150mm	2.60	Enclosed	Bulk Insulation in Contact with Floor R1.2	Ceramic Tiles 8mm
Rumpus/Kitchen/Living	Concrete Above Plasterboard 150mm	10.10		No Insulation	Ceramic Tiles 8mm
Rumpus/Study	Concrete Above Plasterboard 150mm	9.70		No Insulation	Ceramic Tiles 8mm
Rumpus/Kitchen/Living	Concrete Above Plasterboard 150mm	23.40		No Insulation	Ceramic Tiles 8mm
Rumpus/Kitchen/Living	Concrete Above Plasterboard 150mm	12.00		No Insulation	Ceramic Tiles 8mm
Rumpus/Kitchen/Living	Concrete Above Plasterboard 150mm	3.60		No Insulation	Ceramic Tiles 8mm
Rumpus/Laundry	Concrete Above Plasterboard 150mm	1.10		No Insulation	Ceramic Tiles 8mm
Rumpus/WC	Concrete Above Plasterboard 150mm	0.80		No Insulation	Ceramic Tiles 8mm
Master Bed/Kitchen/Living	Concrete Above Plasterboard 150mm	32.40		No Insulation	Carpet+Rubber Underlay 18mm
Master Ens/Kitchen/Living	Concrete Above Plasterboard 150mm	12.60		No Insulation	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Concrete Above Plasterboard 150mm	10.10		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Pantry	Concrete Above Plasterboard 150mm	6.60		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/WC	Concrete Above Plasterboard 150mm	2.00		No Insulation	Carpet+Rubber Underlay 18mm
Bathroom/Garage 1	Concrete Above Plasterboard 150mm	1.90		No Insulation	Ceramic Tiles 8mm
Bathroom/Pantry	Concrete Above Plasterboard 150mm	0.80		No Insulation	Ceramic Tiles 8mm
Bathroom/Laundry	Concrete Above Plasterboard 150mm	5.30		No Insulation	Ceramic Tiles 8mm
Bedroom 3/Garage 1	Concrete Above Plasterboard 150mm	24.60		No Insulation	Carpet+Rubber Underlay 18mm

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 4/Kitchen/Living	Concrete Above Plasterboard 150mm	7.40		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Bedroom 5	Concrete Above Plasterboard 150mm	24.20		No Insulation	Carpet+Rubber Underlay 18mm
Bed 4 Ens/Bedroom 5	Concrete Above Plasterboard 150mm	2.00		No Insulation	Ceramic Tiles 8mm
Bed 4 Ens/Bed 5 Ens	Concrete Above Plasterboard 150mm	4.10		No Insulation	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage 1	Concrete, Plasterboard	Bulk Insulation R2.5	No
Garage 1	Concrete Above Plasterboard	No Insulation	No
Kitchen/Living	Concrete Above Plasterboard	No Insulation	No
Bedroom 5	Concrete Above Plasterboard	No Insulation	No
Bed 5 Ens	Concrete, Plasterboard	Bulk Insulation R2.5	No
Bed 5 Ens	Concrete Above Plasterboard	No Insulation	No
Study	Concrete, Plasterboard	Bulk Insulation R2.5	No
Study	Concrete Above Plasterboard	No Insulation	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Concrete Above Plasterboard	No Insulation	No
Pantry	Concrete, Plasterboard	Bulk Insulation R2.5	No
Pantry	Concrete Above Plasterboard	No Insulation	No
Laundry	Concrete, Plasterboard	Bulk Insulation R2.5	No
Laundry	Concrete Above Plasterboard	No Insulation	No
WC	Concrete Above Plasterboard	No Insulation	No
Rumpus	Plasterboard	Bulk Insulation R4.1	No
Rumpus	Plasterboard	Bulk Insulation R4.1	No
Master Bed	Plasterboard	Bulk Insulation R4.1	No
Master Ens	Plasterboard	Bulk Insulation R4.1	No
Bedroom 2	Plasterboard	Bulk Insulation R4.1	No
Bathroom	Plasterboard	Bulk Insulation R4.1	No
Bedroom 3	Plasterboard	Bulk Insulation R4.1	No
Bedroom 4	Plasterboard	Bulk Insulation R4.1	No
Bed 4 Ens	Plasterboard	Bulk Insulation R4.1	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm ²)	Sealed/unsealed
Kitchen/Living	3	Downlights - LED	150	Sealed
Bedroom 5	4	Downlights - LED	150	Sealed

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Bed 5 Ens	1	Downlights - LED	150	Sealed
Bed 5 Ens	1	Exhaust Fans	300	Sealed
Study	2	Downlights - LED	150	Sealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Pantry	2	Downlights - LED	150	Sealed
Laundry	2	Downlights - LED	150	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
Rumpus	8	Downlights - LED	150	Sealed
Rumpus	2	Downlights - LED	150	Sealed
Master Bed	4	Downlights - LED	150	Sealed
Master Ens	2	Downlights - LED	150	Sealed
Master Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	2	Downlights - LED	150	Sealed
Bathroom	1	Downlights - LED	150	Sealed
Bathroom	1	Exhaust Fans	300	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed
Bedroom 4	4	Downlights - LED	150	Sealed
Bed 4 Ens	1	Downlights - LED	150	Sealed
Bed 4 Ens	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Waterproofing Membrane	No Added Insulation, No air Gap	0.30	Light
Roof Tiles	Foil, Gap Above, Reflective Side Down, Anti-glare Up	0.30	Light

Explanatory notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m; farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au .
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).