

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. 0007885536

Generated on 16 Jul 2022 using AccuRate Sustainability V2.4.3.21

### Property

**Address** 44 Tennyson Road , Cromer , NSW ,  
2099

**Lot/DP** Lot 117 DP 14433

**NCC Class\*** 1a

**Type** New Home

### Plans

**Main Plan** July, 2022

**Prepared by** fineline

### Construction and environment

Assessed floor area (m <sup>2</sup> *)	Exposure Type
Conditioned* 288.5	Suburban
Unconditioned* 86.0	<b>NatHERS climate zone</b>
Total 374.5	56
Garage 60.0	

### Accredited assessor

**Name** Paul Brennan

**Business name** The House Energy Rating Company of  
Australia Pty Ltd

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**Accreditation No.** 20069

**Assessor Accrediting Organisation**  
ABSA

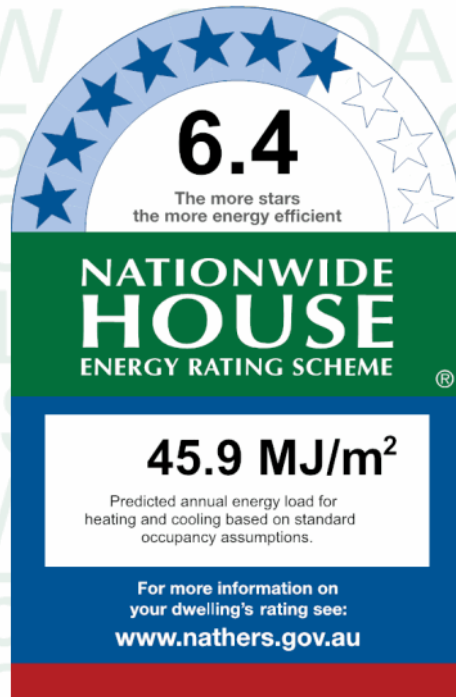
**Declaration of interest** Declaration completed: no conflicts

### 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](http://www.abcb.gov.au).

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



**6.4**  
The more stars  
the more energy efficient

**NATIONWIDE  
HOUSE**  
ENERGY RATING SCHEME

**45.9 MJ/m<sup>2</sup>**  
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](http://www.nathers.gov.au)

### Thermal performance

Heating	Cooling
<b>33.1</b> MJ/m <sup>2</sup>	<b>12.8</b> MJ/m <sup>2</sup>

### 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=UOzBNUVrt](http://hstar.com.au/QR/Generate?p=UOzBNUVrt). When using either link, ensure you are visiting [hstar.com.au](http://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? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### 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

Rated with sealed exhaust ventilation.

Not rated with recessed lighting.

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

### Custom\* windows

Window ID	Window 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*
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Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
dining/kitchen	ALM-002-03 A	WW9	600	2400	Other	00	W	None
dining/kitchen	ALM-002-03 A	WN6	2400	4300	Sliding	75	N	None
dining/kitchen	ALM-002-03 A	WN6HIGH	600	4300	Louvre	90	N	None
dining/kitchen	ALM-001-03 A	WN7	1400	3000	Other	90	N	None
lounge/family	ALM-001-03 A	WW8	2400	1500	Other	90	W	None
lounge/family	ALM-002-03 A	WE12	1500	600	Double Hung	45	E	None
lounge/family	ALM-002-03 A	WE13	1500	600	Double Hung	45	E	None
lounge/family	ALM-002-03 A	WN5	1500	3000	Sliding	35	N	None
lounge/family	ALM-001-03 A	WW7	2400	1500	Other	90	W	None
bathroom	ALM-002-03 A	WE11	1500	1200	Sliding	45	E	None
garage	ALM-002-03 A	WE4	600	1600	Sliding	45	E	None
garage	ALM-002-03 A	WW5	600	1600	Sliding	45	E	None
garage	ALM-001-03 A	WN4	2100	900	Other	90	N	None
bed 1	ALM-002-03 A	WW13	1500	450	Double Hung	45	W	None
bed 1	ALM-002-03 A	WS1	1300	1900	Double Hung	20	S	None
bed 1	ALM-002-03 A	WW14	1300	450	Louvre	90	W	None
bed 1	ALM-002-03 A	WE16	1300	450	Louvre	90	E	None
wir	ALM-002-03 A	WW12	2100	600	Louvre	90	W	None
ensuite1	ALM-002-03 A	WW11	2100	750	Louvre	90	W	None
laundry	ALM-001-03 A	WW10	2100	900	Other	90	W	None
pantry	ALM-001-03 A	WS2	2100	700	Other	90	S	None
master bed	ALM-002-03 A	WE9	1400	600	Double Hung	45	E	None
master bed	ALM-002-03 A	WE10	1400	600	Double Hung	45	E	None
master bed	ALM-002-03 A	WN1	1300	1900	Other	00	N	None
master bed	ALM-002-03 A	WW16	1300	450	Louvre	90	W	None
master bed	ALM-002-03 A	WE11	1300	450	Louvre	90	E	None
bed 2	ALM-002-03 A	WW5	1500	750	Double Hung	45	W	None
bed 2	ALM-002-03 A	WS4	1300	1900	Double Hung	20	S	None
bed 2	ALM-002-03 A	WE16	1300	450	Louvre	90	S	None
bed 2	ALM-002-03 A	WW14	1300	450	Louvre	90	S	None
bed 3	ALM-002-03 A	WW4	1500	2000	Double Hung	17	W	None
study	ALM-002-03 A	WE6	900	1200	Sliding	45	E	None
study	ALM-002-03 A	WS6	900	3300	Sliding	45	S	None
upper bath	ALM-002-03 A	WW3	2100	500	Louvre	90	W	None
master ensuite	ALM-002-03 A	WE8	1500	900	Double Hung	45	E	None
hall/games	ALM-002-03 A	WE7	2800	1600	Double Hung	30	E	None
hall/games	ALM-002-03 A	WE1	1500	900	Double Hung	45	E	None
hall/games	ALM-002-03 A	WE2	1500	900	Double Hung	45	E	None
hall/games	ALM-002-03 A	WE3	1500	900	Double Hung	45	E	None

\* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
hall/games	ALM-002-03 A	WS5	1800	1200	Other	00	S	None
hall/games	ALM-002-03 A	WN2	2400	4000	Sliding	78	N	None
hall/games	ALM-002-03 A	WHL1	650	1200	Louvre	90	N	None
hall/games	ALM-002-03 A	WHL2	650	3200	Louvre	90	N	None
bed 4	ALM-002-03 A	WW2	1500	450	Double Hung	45	W	None
bed 4	ALM-002-03 A	WS3	1500	2400	Double Hung	23	S	None
bed 5	ALM-002-03 A	WW1	1500	450	Double Hung	45	W	None
bed 5	ALM-002-03 A	WN3	1300	1900	Other	00	N	None
bed 5	ALM-002-03 A	WW17	1300	450	Louvre	90	W	None
bed 5	ALM-002-03 A	WE17	1300	450	Louvre	90	W	None

## 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
No Data Available					

## Roof window schedule

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

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

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

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
garage	2500	5000	100	S
entry hall	2400	1200	100	S

## External wall type

Wall ID	Wall type	Solar absorbance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-001	Timber	30	Light	Glass fibre batt: R2.0	No
EW-002	Sandstone	50	Medium		No
EW-003	Brick wall	50	Medium		No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
dining/kitchen	EW-001	3200	4800	W		No
dining/kitchen	EW-001	3200	5000	N	1700	Yes
dining/kitchen	EW-001	3200	4000	N	3500	Yes
lounge/family	EW-001	3200	1700	W	5000	Yes
lounge/family	EW-001	3200	6800	E		No
lounge/family	EW-001	3200	4300	N	600	Yes
lounge/family	EW-001	3200	2600	W		Yes
lounge/family	EW-003	3200	1000	W		Yes
bathroom	EW-001	2700	2200	E		No
garage	EW-002	3200	9700	E		No
garage	EW-002	3500	1700	N	200	Yes
garage	EW-002	2800	6100	S		No
garage	EW-002	2800	1000	W	1500	Yes
bed 1	EW-001	2700	3800	W		No
bed 1	EW-001	2700	1000	E	1700	Yes
bed 1	EW-001	2700	2000	S		No
bed 1	EW-001	2700	900	S		No
bed 1	EW-001	2700	900	S		No
bed 1	EW-001	2700	600	W		No
bed 1	EW-001	2700	600	E		No
wir	EW-001	2700	2100	W		No
ensuite1	EW-001	2700	1800	W		No
laundry	EW-001	2700	1700	W	3400	Yes
pantry	EW-001	3200	1600	W		No

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
pantry	EW-001	3200	3300	S	1000	Yes
entry hall	EW-001	3200	2600	E		No
entry hall	EW-001	2700	1800	S	2500	Yes
master bed	EW-001	2700	4700	E	600	Yes
master bed	EW-001	2700	4700	W		No
master bed	EW-001	2700	2800	N	600	Yes
master bed	EW-001	2700	500	W	1400	Yes
master bed	EW-001	2700	500	E	1400	Yes
master bed	EW-001	2700	600	N	1200	Yes
master bed	EW-001	2700	600	N	1200	Yes
bed 2	EW-001	2700	1200	E	2200	Yes
bed 2	EW-001	2700	4000	W	600	Yes
bed 2	EW-001	2700	2000	S		No
bed 2	EW-001	2700	600	W		No
bed 2	EW-001	2700	600	E		No
bed 2	EW-001	2700	900	S	1000	Yes
bed 2	EW-001	2700	900	S	1000	Yes
bed 3	EW-001	3000	4000	W	600	Yes
study	EW-001	2700	2000	E	600	Yes
study	EW-001	2700	4400	S	600	Yes
upper bath	EW-001	3200	3000	W	600	Yes
master ensuite	EW-001	3200	2000	E	600	Yes
hall/games	EW-001	3200	2600	E	600	Yes
hall/games	EW-001	2400	8600	E	600	Yes
hall/games	EW-001	2700	1700	S	2000	Yes
hall/games	EW-001	2700	5000	N	1700	Yes
hall/games	EW-001	2700	700	W	5000	Yes
hall/games	EW-001	1000	6000	N	400	Yes
bed 4	EW-001	2700	4100	W	600	Yes
bed 4	EW-001	2700	3300	S	700	Yes
bed 5	EW-001	2700	4000	W	600	Yes
bed 5	EW-001	2700	3400	E	5000	Yes
bed 5	EW-001	2700	900	N	1000	Yes
bed 5	EW-001	2700	900	N	1000	Yes
bed 5	EW-001	2700	2000	N	500	Yes
bed 5	EW-001	2700	600	W	1500	Yes
bed 5	EW-001	2700	600	W	1500	Yes

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-001	Brick wall	279.60	

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
dining/kitchen/Ground	as_FLOR-B003 #2006 © 200mm Concrete Floor slab (no insul)	47.00			
lounge/family/Ground	as_FLOR-B003 #2006 © 200mm Concrete Floor slab (no insul)	28.00			
bathroom/Ground	as_FLOR-B003 #2005 © 200mm Concrete Floor slab with ceramic tiles (no insul)	6.00			Ceramic tile
garage/Ground	as_FLOR-B003 #2006 © 200mm Concrete Floor slab (no insul)	60.00			
bed 1/Ground	200mm concrete + cork	16.00			Cork tile
wir/Ground	200mm concrete + cork	7.00			Cork tile
ensuite1/Ground	as_FLOR-B003 #2005 © 200mm Concrete Floor slab with ceramic tiles (no insul)	6.00			Ceramic tile
laundry/Ground	as_FLOR-B003 #2005 © 200mm Concrete Floor slab with ceramic tiles (no insul)	8.00			Ceramic tile
pantry/Ground	as_FLOR-B003 #2005 © 200mm Concrete Floor slab with ceramic tiles (no insul)	5.00			Ceramic tile
entry hall/Ground	STONE TILE	33.00			
master bed/dining/kitchen	200mm concrete with cork	21.00			Cork tile
master bed/Outdoor Air	200mm concrete with cork	1.00			Cork tile
bed 2/bed 1	200mm concrete with cork	15.00			Cork tile
bed 3/wir	200mm concrete with cork	7.00			Cork tile
bed 3/ensuite1	200mm concrete with cork	6.00			Cork tile
bed 3/entry hall	200mm concrete with cork	1.00			Cork tile
study/bathroom	200mm concrete with cork	6.00			Cork tile
study/entry hall	200mm concrete with cork	2.00			Cork tile
upper bath/laundry	as_FLOR-B006 #1005 © 200mm Concrete Floor slab with ceramic tiles (no insul)	8.00			Ceramic tile
upper bath/dining/kitchen	as_FLOR-B006 #1005 © 200mm Concrete Floor slab with ceramic tiles (no insul)	4.00			Ceramic tile
master ensuite/lounge/family	as_FLOR-B006 #1005 © 200mm Concrete Floor slab with ceramic tiles (no insul)	5.50			Ceramic tile
hall/games/dining/kitchen	200mm concrete with cork	31.00			Cork tile
hall/games/entry hall	200mm concrete with cork	28.00			Cork tile
bed 4/dining/kitchen	200mm concrete with cork	16.00			Cork tile
bed 5/dining/kitchen	200mm concrete with cork	2.00			Cork tile
bed 5/Outdoor Air	cork + R1.0 insulation	16.00		R1.0	Cork tile

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
master bed/dining/kitchen	200mm concrete with cork		No
bed 4/dining/kitchen	200mm concrete with cork		No
bed 5/dining/kitchen	200mm concrete with cork		No
upper bath/dining/kitchen	as_FLOR-B006 #1005 © 200mm Concrete Floor slab with ceramic tiles (no insul)		No
hall/games/dining/kitchen	200mm concrete with cork		No
master ensuite/lounge/family	as_FLOR-B006 #1005 © 200mm Concrete Floor slab with ceramic tiles (no insul)		No
study/bathroom	200mm concrete with cork		No
bed 2/bed 1	200mm concrete with cork		No
bed 3/wir	200mm concrete with cork		No
bed 3/ensuite1	200mm concrete with cork		No
upper bath/laundry	as_FLOR-B006 #1005 © 200mm Concrete Floor slab with ceramic tiles (no insul)		No
bed 3/entry hall	200mm concrete with cork		No
study/entry hall	200mm concrete with cork		No
hall/games/entry hall	200mm concrete with cork		No

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm <sup>2</sup> )	Sealed/unsealed
No Data Available				

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
as_ROOF-A021 #A015 © Horiz pitch Colourbond steel roof + RFL with R3.0 bulk insul + Plasterb'd ceiling under	R3.0	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

<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>Assessed floor area</b>	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.
<b>Ceiling penetrations</b>	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.
<b>Conditioned</b>	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.
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>Entrance door</b>	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.
<b>Exposure category – exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category – open</b>	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).
<b>Exposure category – suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category – protected</b>	terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	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 <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	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 <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Reflective wrap (also known as foil)</b>	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<b>Roof window</b>	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.
<b>Shading device</b>	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
<b>Shading features</b>	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
<b>Solar heat gain coefficient (SHGC)</b>	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.
<b>Skylight (also known as roof lights)</b>	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<b>U-value</b>	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
<b>Unconditioned</b>	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
<b>Vertical shading features</b>	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).