# **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0005181458

Generated on 08 Sep 2020 using BERS Pro v4.4.0.1 (3.21)

# **Property**

**Address** 13 Pacific Road, PALM BEACH, NSW

2108

Lot/DP 404/19651

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan Job No 03/2018/07, Issue A dated Feb

2020

Prepared by Jamisa Architects Pty Ltd, Drawn MC

### Construction and environment

Assessed floor area (m2)\* **Exposure Type** 

Conditioned\* Suburban 241.0

NatHERS climate zone Unconditioned\* 27.0

Total 268.0 56

0.0 Garage

# ccredited assessor

Name Craig Crowther

**Business** name Insight Energy

**Email** info@insightenergy.com.au

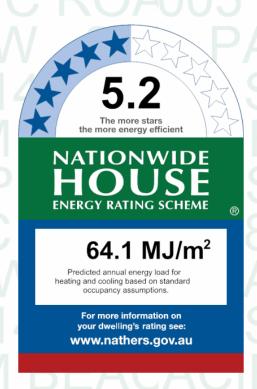
Phone 07 3106 6777

Accreditation No. DMN/12/1469

**Assessor Accrediting Organisation** 

**Design Matters National** 

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



### Thermal performance

Heating Cooling 39.8  $MJ/m^2$  $MJ/m^2$ 

#### 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=xUXDXiqdV.

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

#### 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.



### **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	Maximum	SHGC*	Substitution to	olerance ranges		
	Description	U-value*	31160	SHGC lower limit SHGC upper limit  0.66 0.73			
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73		
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60		

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
No Data Availab	le				

\* Refer to glossary.

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# 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	n/a	1100	2215	n/a	60	N	No
Bed 3	ALM-002-01 A	n/a	2400	3050	n/a	60	E	No
Rumpus	ALM-002-01 A	n/a	2400	4170	n/a	70	E	No
Bed 4	ALM-002-01 A	n/a	1100	2400	n/a	60	S	No
Bath LGF	ALM-002-01 A	n/a	900	1700	n/a	45	S	No
Kitchen/Living	ALM-002-01 A	n/a	1700	900	n/a	00	N	No
Kitchen/Living	ALM-002-01 A	n/a	1700	2500	n/a	60	N	No
Kitchen/Living	ALM-002-01 A	n/a	2700	6750	n/a	60	E	No
Kitchen/Living	ALM-002-01 A	n/a	2700	2090	n/a	00	Е	No
Kitchen/Living	ALM-002-01 A	n/a	2700	3390	n/a	70	W	No
Kitchen/Living	ALM-002-01 A	n/a	1700	900	n/a	00	W	No
WC GF	ALM-002-01 A	n/a	2400	800	n/a	90	S	No
Laundry	ALM-002-01 A	n/a	2400	800	n/a	90	S	No
Bed 1 Ensuite	ALM-002-01 A	n/a	1100	1385	n/a	50	N	No
Bed 1	ALM-002-01 A	n/a	2700	3950	n/a	45	N	No
Bed 1	ALM-002-01 A	n/a	2700	4480	n/a	60	Е	No
Entry Hall	ALM-001-01 A	n/a	2700	1130	n/a	90	Е	No
Entry Hall	ALM-001-01 A	n/a	2700	1150	n/a	90	W	No
Entry Hall	ALM-002-01 A	n/a	2700	750	n/a	00	W	No
Bed 3 Ensuite	ALM-002-01 A	n/a	600	1500	n/a	45	E	No

# Roof window type and performance

Default\* roof windows

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

#### Custom\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution to	SHGC upper limit	
	Willidow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
VEL-011-01 W	Glass	2.6	0.24	0.24	0.24	

# Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
Bed 1 Ensuite	VEL-011-01 W	n/a	0	1275	1275	N	No	No
WIR	VEL-011-01 W	n/a	0	1855	665	N	No	No



# Skylight type and performance

Skylight ID

**Skylight description** 

No Data Available

# Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²) Orientati	on Outdoor shade	Diffuser	Skylight shaft reflectance	

No Data Available

### **External door** schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Storage	1000	1500	90	S

# External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Cavity Brick	0.85	Dark	No insulation	No
EW-2	Tilt up Concrete	0.50	Medium	No insulation	No
EW-3	Concrete Block	0.50	Medium	No insulation	No
EW-4	Cavity Brick	0.85	Dark	No insulation	No
EW-5	Cavity Brick	0.85	Dark	Foil reflective both sides of the Bulk Insulation R1.8	Yes
EW-6	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Reflective both sides + Bulk Insulation R2.5	Yes
EW-7	Tilt up Concrete	0.85	Dark	No insulation	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	EW-1	2700	3945	N	100	NO
Bed 2	EW-2	1400	3600	W	0	YES
Bed 2	EW-3	1300	3600	W	100	YES
Bed 3	EW-4	2700	1640	N	100	NO
Bed 3	EW-1	2700	2990	E	2650	NO
Rumpus	EW-5	2700	5245	S	100	NO
Rumpus	EW-1	2700	6045	E	2650	NO
Bed 4	EW-5	2700	3090	S	100	NO
Bath LGF	EW-5	2700	1745	S	100	NO
Bath LGF	EW-2	1400	2745	W	0	NO
Bath LGF	EW-3	1300	2745	W	100	NO



Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Hallway LGF	EW-2	1400	4345	W	0	NO
Hallway LGF	EW-3	1300	4345	W	100	NO
Hallway LGF	EW-2	1400	1645	N	0	YES
Hallway LGF	EW-3	1300	1645	N	100	YES
Kitchen/Living	EW-1	2700	10300	N	650	NO
Kitchen/Living	EW-1	2700	9500	E	2650	NO
Kitchen/Living	EW-5	2700	5095	S	725	NO
Kitchen/Living	EW-1	2700	4500	W	1800	YES
Pantry	EW-5	2700	3440	S	725	NO
WC GF	EW-5	2700	1590	S	725	YES
Laundry	EW-1	2700	700	Е	12950	YES
Laundry	EW-1	2700	1600	S	50	NO
Bed 1 Ensuite	EW-1	2700	1595	N	650	NO
Bed 1 Ensuite	EW-6	2700	2895	W	650	NO
Bed 1 Ensuite	EW-6	2700	632	W	791	NO
Bed 1 Ensuite	EW-6	2700	583	NW	1694	NO
Bed 1 Ensuite	EW-6	2700	400	N	1550	YES
Bed 1 Ensuite	EW-1	2700	900	W	1750	YES
Storage	EW-7	2700	3000	S	50	NO
Storage	EW-2	2700	5887	W	79	NO
Storage	EW-2	2700	632	NW	25	NO
Storage	EW-2	2700	2045	N	5150	YES
WIR	EW-1	2700	2890	N	650	NO
Bed 1	EW-1	2700	4195	N	650	NO
Bed 1	EW-1	2700	4700	Е	650	NO
Bed 1	EW-1	2700	2000	S	1275	YES
Entry Hall	EW-5	2700	2095	Е	1500	YES
Entry Hall	EW-5	2700	7800	S	3925	NO
Entry Hall	EW-1	2700	2095	W	4475	NO
Bed 3 Ensuite	EW-1	2700	2895	N	100	NO
Bed 3 Ensuite	EW-1	2700	1545	E	2650	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Single Skin Brick		137.00	No insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		66.00	No insulation
IW-3 - Cavity Brick		6.00	No insulation
IW-4 - Tilt Concrete		14.00	No insulation



# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bed 2	Concrete Slab on Ground 100mm	15.80 None	No Insulation	Cork Tiles or Parquetry 8mm
Bed 3	Concrete Slab on Ground 100mm	15.30 None	No Insulation	Cork Tiles or Parquetry 8mm
Rumpus	Suspended Concrete Slab 150mm	30.90 Enclosed	No Insulation	Cork Tiles or Parquetry 8mm
Bed 4	Concrete Slab on Ground 100mm	13.40 None	No Insulation	Cork Tiles or Parquetry 8mm
Bath LGF	Concrete Slab on Ground 100mm	4.80 None	No Insulation	Ceramic Tiles 8mm
Stairs LGF	Concrete Slab on Ground 100mm	3.90 None	No Insulation	Cork Tiles or Parquetry 8mm
Hallway LGF	Concrete Slab on Ground 100mm	12.10 None	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /Bed 2	Concrete Above Plasterboard 100mm	13.80	Bulk Insulation R2	Carpet 10mm
Kitchen/Living /Bed 3	Concrete Above Plasterboard 100mm	14.90	Bulk Insulation R2	Carpet 10mm
Kitchen/Living /Rumpus	Concrete Above Plasterboard 100mm	27.30	Bulk Insulation R2	Carpet 10mm
Kitchen/Living /Bed 4	Concrete Above Plasterboard 100mm	5.70	Bulk Insulation R2	Carpet 10mm
Kitchen/Living /Bath LGF	Concrete Above Plasterboard 100mm	0.90	Bulk Insulation R2	Carpet 10mm
Kitchen/Living /Stairs LGF	Concrete Above Plasterboard 100mm	4.40	Bulk Insulation R2	Carpet 10mm
Kitchen/Living /Hallway LGF	Concrete Above Plasterboard 100mm	13.00	Bulk Insulation R2	Carpet 10mm
Kitchen/Living /Bed 3 Ensuite	Concrete Above Plasterboard 100mm	2.90	Bulk Insulation R2	Carpet 10mm
Kitchen/Living	Concrete Slab on Ground 100mm	5.10 None	No Insulation	20/80 Ceramic/Cork
Pantry/Bed 4	Concrete Above Plasterboard 150mm	5.70	Bulk Insulation R2	Ceramic Tiles 8mm
WC GF/Bath LGF	Concrete Above Plasterboard 150mm	2.50	Bulk Insulation R2	Ceramic Tiles 8mm
Laundry	Concrete Slab on Ground 100mm	5.10 None	No Insulation	Ceramic Tiles 8mm
Bed 1 Ensuite/Kitchen/Living	Concrete Above Plasterboard 360mm	7.30	Bulk Insulation R2	Carpet 10mm
Bed 1 Ensuite	Suspended Concrete Slab 360mm	3.70 Totally Open	No Insulation	Ceramic Tiles 8mm
Storage	Concrete Slab on Ground 100mm	14.70 None	No Insulation	Bare
WIR/Kitchen/Living	Concrete Above Plasterboard 150mm	13.10	Bulk Insulation R2	Cork Tiles or Parquetry 8mm
Bed 1/Kitchen/Living	Concrete Above Plasterboard 150mm	19.40	Bulk Insulation R2	Cork Tiles or Parquetry 8mm
Entry Hall/Kitchen/Living	Concrete Above Plasterboard 150mm	9.90	Bulk Insulation R2	Cork Tiles or Parquetry 8mm
Entry Hall/Storage	Concrete Above Plasterboard 150mm	2.20	Bulk Insulation R2	Cork Tiles or Parquetry 8mm
Entry Hall/Kitchen/Living	Concrete Above Plasterboard 150mm	3.40	Bulk Insulation R2	Bare
Bed 3 Ensuite	Concrete Slab on Ground 100mm	4.40 None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bed 2	Concrete, Plasterboard	Bulk Insulation R2	No
Bed 2	Concrete Above Plasterboard	Bulk Insulation R2	No
Bed 3	Concrete, Plasterboard	Bulk Insulation R2	No
Bed 3	Concrete Above Plasterboard	Bulk Insulation R2	No
Rumpus	Concrete, Plasterboard	Bulk Insulation R2	No

#### 5.2 Star Rating as of 08 Sep 2020



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Rumpus	Concrete Above Plasterboard	Bulk Insulation R2	No
Bed 4	Concrete, Plasterboard	Bulk Insulation R2	No
Bed 4	Concrete Above Plasterboard	Bulk Insulation R2	No
Bath LGF	Concrete, Plasterboard	Bulk Insulation R2	No
Bath LGF	Concrete Above Plasterboard	Bulk Insulation R2	No
Stairs LGF	Concrete, Plasterboard	Bulk Insulation R2	No
Stairs LGF	Concrete Above Plasterboard	Bulk Insulation R2	No
Hallway LGF	Concrete, Plasterboard	Bulk Insulation R2	No
Hallway LGF	Concrete Above Plasterboard	Bulk Insulation R2	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R2	No
Kitchen/Living	Concrete Above Plasterboard	Bulk Insulation R2	No
Pantry	Concrete, Plasterboard	Bulk Insulation R2	No
WC GF	Concrete, Plasterboard	Bulk Insulation R2	No
Laundry	Concrete, Plasterboard	Bulk Insulation R2	No
Bed 1 Ensuite	Concrete, Plasterboard	Bulk Insulation R2	No
Storage	Concrete, Plasterboard	Bulk Insulation R2	No
Storage	Concrete Above Plasterboard	Bulk Insulation R2	No
WIR	Concrete, Plasterboard	Bulk Insulation R2	No
Bed 1	Concrete, Plasterboard	Bulk Insulation R2	No
Entry Hall	Concrete, Plasterboard	Bulk Insulation R2	No
Entry Hall	Concrete, Plasterboard	Bulk Insulation R2	No
Bed 3 Ensuite	Concrete, Plasterboard	Bulk Insulation R2	No
Bed 3 Ensuite	Concrete Above Plasterboard	Bulk Insulation R2	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Bed 2	5	Downlights - LED	150	Sealed
Bed 3	5	Downlights - LED	150	Sealed
Rumpus	9	Downlights - LED	150	Sealed
Bed 4	5	Downlights - LED	150	Sealed
Bath LGF	2	Downlights - LED	150	Sealed
Bath LGF	1	Exhaust Fans	300	Sealed
Hallway LGF	6	Downlights - LED	150	Sealed
Kitchen/Living	26	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Pantry	2	Downlights - LED	150	Sealed
WC GF	1	Downlights - LED	150	Sealed
WC GF	1	Exhaust Fans	300	Sealed



Location	Quantity	Туре	Diameter (mm)	Sealed/unsealed	
Laundry	2	Downlights - LED	150	Sealed	
Laundry	1	Exhaust Fans	300	Sealed	
Bed 1 Ensuite	4	Downlights - LED	150	Sealed	
Bed 1 Ensuite	1	Exhaust Fans	300	Sealed	
WIR	4	Downlights - LED	150	Sealed	
Bed 1	6	Downlights - LED	150	Sealed	
Entry Hall	4	Downlights - LED	150	Sealed	
Bed 3 Ensuite	2	Downlights - LED	150	Sealed	
Bed 3 Ensuite	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
Concrete	No Added Insulation, No air Gap	0.50	Medium
Concrete	No Added Insulation, No air Gap	0.50	Medium



### **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 NatHES 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 Nath—ERS 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, chirmeys and flues. Excludes		
Ceiling perietrations	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		
Conditioned	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).		
Eveneure esteriory coop	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered		
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).		
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.		
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.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	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4		
(NOC) Class	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.		
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional		
Provisional value	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		
NOOI WIIIdOW	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).		
	Colora, Caro, Walle in the Sellining (William Walley), To look, Other Sellinings, Vogetation (protected or linear hallinge trees).		