

# Nationwide House Energy Rating Scheme — Class 1 Summary

## NatHERS Certificate No. #HR-VFOC6Q-01

Generated on 01 Jul 2021 using HERO v1.2-beta

### Property

**Address** 29 - 43 Matong Drive, OCEAN SHORES, NSW, 2483

**Lot/DP** 3//1243658

**NatHERS climate zone** 10 - Brisbane AMO

### Accredited assessor



Duncan Hope

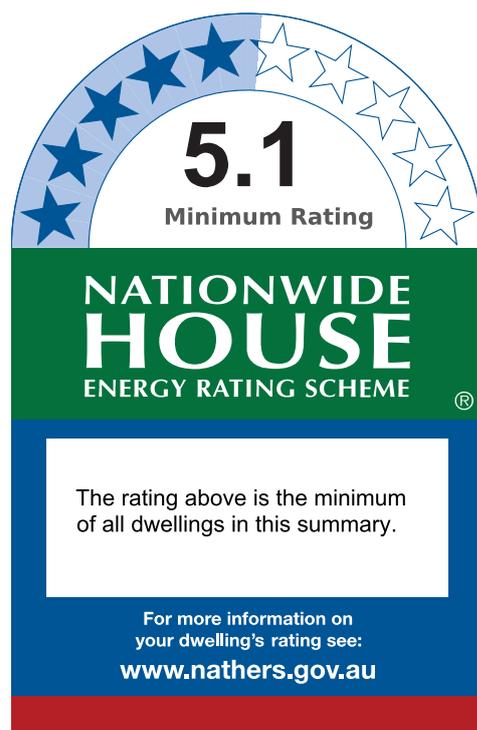
Senica Consultancy Group

duncan@senica.com.au

+61 280067784

**Accreditation No.** DMN/14/1658

**Assessor Accrediting Organisation** DMN



### Verification

To verify this certificate, scan the QR code or visit <http://www.hero-software.com.au/pdf/HR-VFOC6Q-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>

### Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m <sup>2</sup> )	Cooling load (MJ/m <sup>2</sup> )	Total load (MJ/m <sup>2</sup> )	Star rating
<a href="#">HR-FDNR0L-01</a>	H 28	20.2	24.7	45.0	5.8
<a href="#">HR-4CKWX5-01</a>	H 29	15.2	38.6	53.7	5.1
<a href="#">HR-5EMT2X-01</a>	H 30	16.8	30.3	47.1	5.6
<a href="#">HR-B849IG-01</a>	H 31	16.4	35.0	51.4	5.3

### 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



## Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m <sup>2</sup> )	Cooling load (MJ/m <sup>2</sup> )	Total load (MJ/m <sup>2</sup> )	Star rating
<a href="#">HR-FB4PHN-01</a>	H 32	16.4	35.0	51.4	5.3
<a href="#">HR-I3G7I7-01</a>	H 33	16.4	35.0	51.4	5.3
<a href="#">HR-YRCQ25-01</a>	H 34	15.2	27.7	42.9	6.0
<a href="#">HR-SBY25S-01</a>	H 35	12.7	38.6	51.3	5.3
<a href="#">HR-BJONIZ-01</a>	H 36	10.9	34.1	45.0	5.8
<a href="#">HR-2TNUDJ-01</a>	H27	20.1	24.8	44.9	5.8
Maximum Loads and Minimum Rating		20.2	38.6	53.7	5.1
Average	10x (Total)	16.0	32.4	48.4	5.5

## Explanatory Notes

### About this report

This summary rating is the ratings of all NCC Class 1 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the 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. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

### 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). 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.

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, input and creation of the NatHERS Certificate is by the assessor. 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.

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-2TNUDJ-01

Generated on 01 Jul 2021 using HERO v1.2-beta

### Property

**Address** 27 - 43 Matong Drive, OCEAN SHORES,  
NSW, 2483

**Lot/DP** 3//1243658

**NCC Class\*** 1a

**Type** New

### Plans

**Main Plan** Project No. 20034

**Prepared by** Story Design Collective

### Construction and environment

Assessed floor area (m <sup>2</sup> )*		Exposure Type
Conditioned*	109.3	Suburban
Unconditioned*	11.2	<b>NatHERS climate zone</b>
<b>Total</b>	<b>158.9</b>	<b>10 - Brisbane AMO</b>
<b>Garage</b>	<b>38.4</b>	



### Accredited assessor

**Name** Duncan Hope

**Business name** Senica Consultancy Group

**Email** duncan@senica.com.au

**Phone** +61 280067784

**Accreditation No.** DMN/14/1658

**Assessor Accrediting Organisation** DMN

**Declaration of interest** No Conflict of Interest

### 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.

**5.8**  
The more stars  
the more energy efficient

**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME

**44.9 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>20.1</b>	<b>24.8</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-2TNUDJ-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.

## 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?

## Window and glazed door type and performance

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
A&L-003-01 A	Al Sliding Window SG 3Clr	6.15	0.78	0.74	0.82

## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	A&L-003-01 A	0624sw	600	2400	Sliding	45	SSE	None
Bedroom 01	A&L-003-01 A	0924s	900	2400	Sliding	45	WSW	None
Bedroom 01	A&L-003-01 A	0624sw	600	2400	Sliding	45	NNW	None

\* Refer to glossary.



## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 02	A&L-003-01 A	0924s	900	2400	Sliding	45	WSW	None
Bedroom 03	A&L-003-01 A	0621s	600	2100	Sliding	45	WSW	None
Bedroom 03	A&L-003-01 A	2108dh	2100	800	Double Hung	45	SSE	None
Ensuite	A&L-003-01 A	0618s	600	1800	Sliding	45	NNW	None
Garage	ALM-002-01 A	2418sd	2400	1800	Sliding	45	ENE	None
Kitchen/Living	A&L-003-01 A	2441sd	2400	4100	Sliding	66	NNW	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	ENE	None
Kitchen/Living	A&L-003-01 A	0624sw	600	2400	Sliding	45	SSE	None
Kitchen/Living	A&L-003-01 A	0624sw	600	2400	Sliding	45	SSE	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

## Skylight *type and performance*

Skylight ID	Skylight description
None	

## Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

\* Refer to glossary.

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry	2300	920	90	SSE
Garage	2200	5300	90	SSE

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-REFL-CAV	BV-REFL-CAV: Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	2.00	Yes
RETAINCONBLOCK-190-PB1	RETAINCONBLOCK-190-PB1: Retaining Wall Concrete Block 190mm Concrete - Plasterboard Internally	0.50	Medium	2.00	No
WB-REFL-CAV	WB-REFL-CAV: Weatherboard Battened (Refl Cavity) Stud Wall	0.50	Medium	2.00	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	WB-REFL-CAV	2550	500	WSW	4447	Yes
Bathroom	WB-REFL-CAV	2550	2780	SSE	165	Yes
Bedroom 01	WB-REFL-CAV	2550	3993	WSW	551	No
Bedroom 01	WB-REFL-CAV	2550	4399	NNW	562	No
Bedroom 01	WB-REFL-CAV	2550	876	ENE	8351	Yes
Bedroom 02	WB-REFL-CAV	2550	3094	WSW	544	No
Bedroom 03	WB-REFL-CAV	2550	3192	WSW	563	No
Bedroom 03	WB-REFL-CAV	2550	3811	SSE	664	Yes
Ensuite	WB-REFL-CAV	2550	2165	NNW	1438	Yes
Ensuite	WB-REFL-CAV	2550	1000	ENE		Yes
Entry	RETAINCONBLOCK-190-PB1	2700	3802	WSW		No
Entry	RETAINCONBLOCK-190-PB1	2700	28	NNW		Yes
Entry	WB-REFL-CAV	2700	1086	SSE	1026	Yes
Garage	BV-REFL-CAV	2700	24	WSW		Yes
Garage	RETAINCONBLOCK-190-PB1	2700	2075	WSW		No
Garage	RETAINCONBLOCK-190-PB1	2700	7170	NNW		No

\* Refer to glossary.

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Garage	RETAINCONBLOCK-190-PB1	2700	1757	ENE		No
Garage	WB-REFL-CAV	2700	5999	SSE	1025	No
Garage	WB-REFL-CAV	2700	4231	ENE		No
Kitchen/Living	WB-REFL-CAV	2550	22	WSW		Yes
Kitchen/Living	WB-REFL-CAV	2550	5289	NNW	3043	Yes
Kitchen/Living	WB-REFL-CAV	2550	4597	ENE	663	Yes
Kitchen/Living	WB-REFL-CAV	2550	694	NNW	7610	Yes
Kitchen/Living	WB-REFL-CAV	2550	4504	ENE		No
Kitchen/Living	WB-REFL-CAV	2550	6004	SSE	141	No

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	80.5	0.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-002: Suspended Timber Floor - Lined Below	1.6	N/A	0.00	Tile
Bathroom	TIMB-002: Suspended Timber Floor - Lined Below	5.5	Open	0.00	Tile
Bedroom 01	TIMB-002: Suspended Timber Floor - Lined Below	17.5	Open	0.00	Carpet
Bedroom 02	TIMB-002: Suspended Timber Floor - Lined Below	12.3	Open	0.00	Carpet
Bedroom 03	TIMB-002: Suspended Timber Floor - Lined Below	12.2	Open	0.00	Carpet
Ensuite	TIMB-002: Suspended Timber Floor - Lined Below	4.3	Open	0.00	Tile
Entry	CSOG-100: Concrete Slab on Ground (100mm)	4.1	N/A	0.00	Timber
Garage	CSOG-100: Concrete Slab on Ground (100mm)	38.4	N/A	0.00	Exposed
Hallway	TIMB-002: Suspended Timber Floor - Lined Below	7.2	Open	0.00	Timber
Kitchen/Living	TIMB-002: Suspended Timber Floor - Lined Below	2.4	N/A	0.00	Timber
Kitchen/Living	TIMB-002: Suspended Timber Floor - Lined Below	36.6	N/A	1.00	Timber

\* Refer to glossary.



## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	TIMB-002: Suspended Timber Floor - Lined Below	18.8	Open	0.00	Timber

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Bedroom 01	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Bedroom 02	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Bedroom 03	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Ensuite	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Entry	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Garage	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Hallway	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Kitchen/Living	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	2	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	250	Sealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Entry	1	Downlight	100	Sealed
Hallway	2	Downlight	100	Sealed
Kitchen/Living	9	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

\* Refer to glossary.



## Ceiling fans

Location	Quantity	Diameter (mm)
None		

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	1.30	0.73	Dark (Monument)

## 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 10 m 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).

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-FDNR0L-02

Generated on 25 Oct 2022 using Hero 3.0.1

### Property

**Address** H 28, 28 - 43 Matong Drive, OCEAN SHORES, NSW, 2483  
**Lot/DP** 3//1243658  
**NCC Class\*** 1a  
**Type** New

### Plans

**Main Plan** Project No. 20034  
**Prepared by** Story Design Collective

### Construction and environment

Assessed floor area (m <sup>2</sup> )*		Exposure Type
Conditioned*	109.3	Suburban
Unconditioned*	11.2	<b>NatHERS climate zone</b>
Total	161.9	10 - Brisbane AMO
Garage	41.3	



### Accredited assessor

**Name** Duncan Hope  
**Business name** Senica Consultancy Group  
**Email** duncan@senica.com.au  
**Phone** +61 280067784  
**Accreditation No.** DMN/14/1658  
**Assessor Accrediting Organisation** DMN  
**Declaration of interest** No Conflict of Interest

### 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.

**5.7**  
The more stars  
the more energy efficient

**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME

**46.2 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>20.1</b>	<b>26.1</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-FDNR0L-02>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.

## 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?

## Window and glazed door type and performance

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
A&L-003-01 A	Al Sliding Window SG 3Clr	6.15	0.78	0.74	0.82

## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	A&L-003-01 A	0624sw	600	2400	Sliding	45	SSE	None
Bedroom 01	A&L-003-01 A	0621s	600	2100	Sliding	45	WSW	None
Bedroom 01	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None

\* Refer to glossary.

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 01	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Bedroom 02	A&L-003-01 A	0924s	900	2400	Sliding	45	WSW	None
Bedroom 03	A&L-003-01 A	0621s	600	2100	Sliding	45	WSW	None
Bedroom 03	A&L-003-01 A	2108dh	2100	800	Double Hung	45	SSE	None
Ensuite	A&L-003-01 A	0618s	600	1800	Sliding	45	NNW	None
Garage	ALM-002-01 A	2418sd	2400	1800	Sliding	45	ENE	None
Kitchen/Living	A&L-003-01 A	2441sd	2400	4000	Sliding	60	NNW	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	ENE	None
Kitchen/Living	A&L-003-01 A	0624sw	600	2400	Sliding	45	SSE	None
Kitchen/Living	A&L-003-01 A	0624sw	600	2400	Sliding	45	SSE	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

## Skylight *type and performance*

Skylight ID	Skylight description
None	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry	2300	920	90	SSE
Garage	2200	5500	90	SSE

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-REFL-CAV	Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	2.00	Yes
CONBLOCK-190-PB1	Concrete Block 190mm Concrete - Plasterboard Internally	0.50	Medium	2.00	No
CONCBLOCK-190-FCF-PB	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	0.50	Medium	2.00	No
James Hardie Axon Cladding	James Hardie Axon Cladding	0.50	Medium	2.00	Yes
RETAINCONBLOCK-190-PB1	Retaining Wall Concrete Block 190mm Concrete - Plasterboard Internally	0.50	Medium	2.00	No
WB-NOCAV-A	Weatherboard Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.00	No
WB-NOCAV-B	Weatherboard Direct-Fix (No Cavity) Stud Wall	0.30	Light	2.00	No
WB-REFL-CAV	Weatherboard Battened (Refl Cavity) Stud Wall	0.50	Medium	2.00	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	WB-REFL-CAV	2550	500	WSW	4637	Yes
Bathroom	WB-REFL-CAV	2550	2780	SSE	149	No
Bedroom 01	James Hardie Axon Cladding	2550	3993	WSW	731	Yes
Bedroom 01	James Hardie Axon Cladding	2550	4399	NNW	576	Yes
Bedroom 01	James Hardie Axon Cladding	2550	876	ENE	8337	Yes
Bedroom 02	James Hardie Axon Cladding	2550	3094	WSW	724	Yes
Bedroom 03	James Hardie Axon Cladding	2550	3192	WSW	743	Yes
Bedroom 03	James Hardie Axon Cladding	2550	3811	SSE	637	Yes

\* Refer to glossary.



## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Ensuite	WB-REFL-CAV	2550	2165	NNW	1457	Yes
Ensuite	WB-REFL-CAV	2550	1000	ENE		Yes
Entry	WB-REFL-CAV	2100	3802	WSW	5576	Yes
Entry	RETAINCONBLOCK-190-PB1	2700	28	NNW		Yes
Entry	WB-REFL-CAV	2700	1086	SSE	1026	Yes
Entry	CONBLOCK-190-PB1	600	3802	WSW		No
Garage	BV-REFL-CAV	2700	24	WSW		Yes
Garage	WB-NOCAV-A	2100	2075	WSW	5620	Yes
Garage	WB-NOCAV-A	920	7660	NNW	5093	Yes
Garage	WB-NOCAV-B	850	1587	ENE		Yes
Garage	WB-REFL-CAV	3000	6486	SSE	1026	Yes
Garage	WB-REFL-CAV	3000	4403	ENE		Yes
Garage	CONCBLOCK-190-FCF-PB	2150	1587	ENE		Yes
Garage	CONBLOCK-190-PB1	2080	7660	NNW		No
Garage	CONBLOCK-190-PB1	600	2075	WSW		No
Kitchen/Living	WB-REFL-CAV	2550	22	WSW		Yes
Kitchen/Living	James Hardie Axon Cladding	2550	5289	NNW	3033	Yes
Kitchen/Living	James Hardie Axon Cladding	2550	4597	ENE	649	Yes
Kitchen/Living	WB-REFL-CAV	2550	694	NNW	7610	Yes
Kitchen/Living	WB-REFL-CAV	2550	4504	ENE		No
Kitchen/Living	WB-REFL-CAV	2550	6004	SSE	124	No

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	80.5	0.00

\* Refer to glossary.

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-002: Suspended Timber Floor - Lined Below	2.1	N/A	0.00	Tile
Bathroom	TIMB-002: Suspended Timber Floor - Lined Below	5.0	N/A	2.00	Tile
Bedroom 01	TIMB-002: Suspended Timber Floor - Lined Below	17.5	N/A	2.00	Carpet
Bedroom 02	TIMB-002: Suspended Timber Floor - Lined Below	12.3	N/A	2.00	Carpet
Bedroom 03	TIMB-002: Suspended Timber Floor - Lined Below	12.2	N/A	2.00	Carpet
Ensuite	TIMB-002: Suspended Timber Floor - Lined Below	4.3	N/A	2.00	Tile
Entry	CSOG-100: Concrete Slab on Ground (100mm)	4.1	N/A	0.00	Timber
Garage	CSOG-100: Concrete Slab on Ground (100mm)	41.3	N/A	0.00	Exposed
Hallway	TIMB-002: Suspended Timber Floor - Lined Below	6.7	N/A	2.00	Timber
Hallway	TIMB-002: Suspended Timber Floor - Lined Below	0.5	N/A	0.00	Timber
Kitchen/Living	TIMB-002: Suspended Timber Floor - Lined Below	41.0	N/A	0.00	Timber
Kitchen/Living	TIMB-002: Suspended Timber Floor - Lined Below	16.9	N/A	2.00	Timber

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.50	Yes
Bathroom	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.50	Yes
Bedroom 01	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.50	Yes
Bedroom 02	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.50	Yes
Bedroom 03	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.50	Yes
Ensuite	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.50	Yes
Garage	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.50	Yes
Hallway	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.50	Yes
Kitchen/Living	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.50	Yes
Kitchen/Living	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.50	Yes

\* Refer to glossary.



## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	2	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	250	Sealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	250	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Entry	1	Downlight	100	Sealed
Hallway	2	Downlight	100	Sealed
Kitchen/Living	9	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
None		

## Roof type

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

\* Refer to glossary.

## 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 10 m 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).

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-4CKWX5-02

Generated on 25 Oct 2022 using Hero 3.0.1

### Property

**Address** H 29, 29 - 43 Matong Drive, OCEAN SHORES, NSW, 2483  
**Lot/DP** 3//1243658  
**NCC Class\*** 1a  
**Type** New

### Plans

**Main Plan** Project No. 20034  
**Prepared by** Story Design Collective

### Construction and environment

Assessed floor area (m <sup>2</sup> )*	Exposure Type
<b>Conditioned*</b> 109.7	Suburban
<b>Unconditioned*</b> 15.0	<b>NatHERS climate zone</b>
<b>Total</b> 160.4	10 - Brisbane AMO
<b>Garage</b> 35.7	



### Accredited assessor

**Name** Duncan Hope  
**Business name** Senica Consultancy Group  
**Email** duncan@senica.com.au  
**Phone** +61 280067784  
**Accreditation No.** DMN/14/1658  
**Assessor Accrediting Organisation** DMN  
**Declaration of interest** No Conflict of Interest

### 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.

**5.1**  
The more stars  
the more energy efficient

**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME

**53.5 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>13.2</b>	<b>40.3</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-4CKWX5-02>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.

## 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?

## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ATB-003-01 B	Al Thermally Broken A DG Air Fill Clear-Clear	3.60	0.47	0.45	0.49

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
A&L-003-01 A	Al Sliding Window SG 3Clr	6.15	0.78	0.74	0.82

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	A&L-003-01 A	0618s	600	1800	Sliding	45	SSE	None
Bedroom 02	A&L-003-01 A	0618s	600	1800	Sliding	45	WSW	None
Bedroom 02	A&L-003-01 A	0618s	600	1800	Sliding	45	SSE	None

\* Refer to glossary.

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 02	A&L-003-01 A	0618s	600	1800	Sliding	45	SSE	None
Bedroom 02	A&L-003-01 A	0921s	900	2100	Sliding	45	ENE	None
Ensuite	A&L-003-01 A	0815s	800	1496	Sliding	45	ENE	None
Entry	ATB-003-01 B	W01	2300	920	Casement	90	NNW	None
Kitchen/Living	A&L-003-01 A	W05	900	2700	Sliding	45	WSW	None
Kitchen/Living	A&L-003-01 A	2427sd	2400	2700	Sliding	60	ENE	None
Kitchen/Living	A&L-003-01 A	2427sd	2400	2700	Sliding	60	ENE	None
Kitchen/Living	A&L-003-01 A	2427sd	2400	2700	Sliding	60	NNW	None
Laundry	ATB-003-01 B	W02	2000	820	Casement	90	WSW	None
Master Bedroom	A&L-003-01 A	0618s	600	1800	Sliding	45	WSW	None
Master Bedroom	A&L-003-01 A	0924s	900	2400	Sliding	45	ENE	None
Powder	A&L-003-01 A	1208dh	1200	800	Sliding	45	WSW	None
Upstairs	A&L-003-01 A	0618s	600	1800	Sliding	45	NNW	None
Upstairs	A&L-003-01 A	0618s	600	1800	Sliding	45	NNW	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

\* Refer to glossary.

## Skylight type and performance

Skylight ID	Skylight description
None	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage 1	2100	5600	90	NNW

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
FC-NOCAV	Fibre-Cement Clad Direct-Fix (No Cavity) Stud Wall	0.30	Light	2.00	No
Shadowclad	Shadowclad	0.30	Light	0.00	No
WB-REFL-CAV-A	Weatherboard Battened (Refl Cavity) Stud Wall	0.30	Light	2.00	Yes
WB-REFL-CAV-B	Weatherboard Battened (Refl Cavity) Stud Wall	0.50	Medium	2.00	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	WB-REFL-CAV-B	2700	1900	SSE	668	Yes
Bedroom 02	WB-REFL-CAV-B	2700	3178	WSW	586	Yes
Bedroom 02	WB-REFL-CAV-B	2700	3685	SSE	664	Yes
Bedroom 02	WB-REFL-CAV-B	2700	3099	SSE	672	Yes
Bedroom 02	WB-REFL-CAV-B	2700	3845	ENE	571	Yes
Ensuite	WB-REFL-CAV-B	2700	1496	ENE	554	Yes
Ensuite	WB-REFL-CAV-B	2700	1503	WSW	572	Yes
Ensuite	WB-REFL-CAV-B	2700	4105	NNW	541	Yes
Entry	WB-REFL-CAV-A	2400	1185	NNW	1571	Yes
Entry	WB-REFL-CAV-A	2400	2381	ENE	3336	Yes
Garage 1	FC-NOCAV	2400	5901	WSW		Yes

\* Refer to glossary.

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Garage 1	FC-NOCAV	2400	6051	NNW		Yes
Garage 1	FC-NOCAV	2400	3521	ENE		Yes
Garage 1	FC-NOCAV	2400	1366	SSE		Yes
Kitchen/Living	WB-REFL-CAV-A	3000	3921	WSW		Yes
Kitchen/Living	WB-REFL-CAV-A	3000	6803	ENE		Yes
Kitchen/Living	WB-REFL-CAV-A	3000	8804	SSE		Yes
Kitchen/Living	WB-REFL-CAV-A	3000	2824	NNW	4051	Yes
Laundry	WB-REFL-CAV-A	3000	1573	WSW		Yes
Master Bedroom	WB-REFL-CAV-B	2700	611	NNW	591	Yes
Master Bedroom	WB-REFL-CAV-B	2700	2489	WSW	561	Yes
Master Bedroom	WB-REFL-CAV-B	2700	4228	ENE	570	Yes
Powder	WB-REFL-CAV-A	3000	1092	WSW		Yes
Powder	Shadowclad	3000	3155	NNW		Yes
Upstairs	WB-REFL-CAV-B	2700	2372	WSW	588	Yes
Upstairs	WB-REFL-CAV-B	2700	4085	NNW	558	Yes

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	89.8	0.00
INT-PB	Internal Plasterboard Stud Wall	11.9	2.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-002: Suspended Timber Floor - Lined Below	6.9	N/A	0.15	Tile
Bedroom 02	TIMB-002: Suspended Timber Floor - Lined Below	22.1	N/A	0.15	Carpet
Ensuite	TIMB-002: Suspended Timber Floor - Lined Below	6.1	N/A	0.15	Tile
Entry	CSOG-100: Concrete Slab on Ground (100mm)	2.8	N/A	0.00	Tile

\* Refer to glossary.

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage 1	TIMB-002: Suspended Timber Floor - Lined Below	35.7	N/A	0.15	Carpet
Kitchen/Living	CSOG-100: Concrete Slab on Ground (100mm)	50.6	N/A	0.00	Tile
Laundry	CSOG-100: Concrete Slab on Ground (100mm)	5.8	N/A	0.00	Tile
Master Bedroom	TIMB-002: Suspended Timber Floor - Lined Below	16.7	N/A	0.15	Carpet
Powder	CSOG-100: Concrete Slab on Ground (100mm)	2.3	N/A	0.00	Tile
Upstairs	TIMB-002: Suspended Timber Floor - Lined Below	12.9	N/A	0.15	Carpet

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.50	Yes
Bedroom 02	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.50	Yes
Ensuite	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.50	Yes
Garage 1	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.50	Yes
Kitchen/Living	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.50	Yes
Master Bedroom	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.50	Yes
Upstairs	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	3.50	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	200	Sealed
Bedroom 02	4	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Entry	1	Downlight	100	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Laundry	1	Downlight	100	Sealed
Master Bedroom	3	Downlight	100	Sealed

\* Refer to glossary.



## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Powder	1	Downlight	100	Sealed
Upstairs	2	Downlight	100	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
Bedroom 02	2	1400
Master Bedroom	1	1400

## 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)

\* Refer to glossary.



## 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 10 m 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).

\* Refer to glossary.

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-5EMT2X-01

Generated on 01 Jul 2021 using HERO v1.2-beta

### Property

**Address** 30 - 43 Matong Drive, OCEAN SHORES,  
NSW, 2483

**Lot/DP** 3//1243658

**NCC Class\*** 1a

**Type** New

### Plans

**Main Plan** Project No. 20034

**Prepared by** Story Design Collective

### Construction and environment

Assessed floor area (m <sup>2</sup> )*		Exposure Type
Conditioned*	100.4	Suburban
Unconditioned*	5.4	<b>NatHERS climate zone</b>
<b>Total</b>	<b>126.1</b>	<b>10 - Brisbane AMO</b>
<b>Garage</b>	<b>20.3</b>	



### Accredited assessor

**Name** Duncan Hope

**Business name** Senica Consultancy Group

**Email** duncan@senica.com.au

**Phone** +61 280067784

**Accreditation No.** DMN/14/1658

**Assessor Accrediting Organisation** DMN

**Declaration of interest** No Conflict of Interest

### 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.

**5.6**  
The more stars  
the more energy efficient

**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME

**47.1 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>16.8</b>	<b>30.3</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-5EMT2X-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.



## 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?

## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
A&L-003-01 A	Al Sliding Window SG 3Clr	6.15	0.78	0.74	0.82

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	A&L-003-01 A	0615s	600	1500	Sliding	45	WSW	None
Bedroom 2	A&L-003-01 A	0618s	600	1800	Sliding	45	WSW	None
Bedroom 2	A&L-003-01 A	0618s	600	1800	Sliding	45	NNW	None

\* Refer to glossary.

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bedroom 3	A&L-003-01 A	0618s	600	1800	Sliding	45	WSW	None
Bedroom 3	A&L-003-01 A	2108dh	2100	800	Double Hung	45	SSE	None
Ensuite	A&L-003-01 A	0518sw	500	1800	Sliding	45	SSE	None
Garage	A&L-003-01 A	2121sd	2100	2100	Sliding	45	SSE	None
Kitchen/Living	A&L-003-01 A	2434sd	2400	3400	Sliding	66	ENE	None
Kitchen/Living	A&L-003-01 A	2430sd	2400	3000	Sliding	66	NNW	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	ENE	None
Master Bedroom	A&L-003-01 A	0921s	900	2100	Sliding	45	WSW	None
Master Bedroom	A&L-003-01 A	0518s	500	1800	Sliding	45	SSE	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

## Skylight *type and performance*

Skylight ID	Skylight description
None	

## Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2200	2700	90	ENE
Kitchen/Living	2200	920	90	ENE

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
WB-REFL-CAV	WB-REFL-CAV: Weatherboard Battened (Refl Cavity) Stud Wall	0.50	Medium	2.00	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	WB-REFL-CAV	2700	2725	WSW		Yes
Bedroom 2	WB-REFL-CAV	2700	24	ENE		Yes
Bedroom 2	WB-REFL-CAV	2700	3777	WSW		Yes
Bedroom 2	WB-REFL-CAV	2700	3090	NNW		Yes
Bedroom 3	WB-REFL-CAV	2700	3191	WSW		Yes
Bedroom 3	WB-REFL-CAV	2700	1208	SSE		Yes
Ensuite	WB-REFL-CAV	2700	24	WSW		Yes
Ensuite	WB-REFL-CAV	2700	2488	ENE	7137	Yes
Ensuite	WB-REFL-CAV	2700	2096	SSE		Yes
Garage	WB-REFL-CAV	2700	5313	SSE	3177	Yes
Garage	WB-REFL-CAV	2700	98	SSE		Yes
Garage	WB-REFL-CAV	2700	3196	ENE	1722	No
Kitchen/Living	WB-REFL-CAV	2700	4503	NNW		Yes
Kitchen/Living	WB-REFL-CAV	2700	4343	ENE	3109	Yes
Kitchen/Living	WB-REFL-CAV	2700	3117	NNW	4337	Yes
Kitchen/Living	WB-REFL-CAV	2700	2751	ENE		Yes
Kitchen/Living	WB-REFL-CAV	2700	1525	NNW		Yes
Kitchen/Living	WB-REFL-CAV	2700	1110	ENE	1682	No
Master Bedroom	WB-REFL-CAV	2700	4074	WSW		Yes

\* Refer to glossary.



		(mm)	(mm)	ation	projection (mm)	feature
Master Bedroom	WB-REFL-CAV	2700	3585	SSE		Yes

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	96.4	0.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-002: Suspended Timber Floor - Lined Below	5.4	Open	0.00	Carpet
Bedroom 2	TIMB-002: Suspended Timber Floor - Lined Below	11.0	Open	0.00	Carpet
Bedroom 3	TIMB-002: Suspended Timber Floor - Lined Below	10.8	Open	0.00	Carpet
Bedroom Hallway	TIMB-002: Suspended Timber Floor - Lined Below	3.3	Open	0.00	Carpet
Ensuite	TIMB-002: Suspended Timber Floor - Lined Below	4.7	Open	0.00	Carpet
Garage	CSOG-100: Concrete Slab on Ground (100mm)	20.3	N/A	0.00	Exposed
Hallway	TIMB-002: Suspended Timber Floor - Lined Below	2.7	Open	0.00	Carpet
Kitchen/Living	TIMB-002: Suspended Timber Floor - Lined Below	50.7	Open	0.00	Carpet
Master Bedroom	TIMB-002: Suspended Timber Floor - Lined Below	14.6	Open	0.00	Carpet
WIR	TIMB-002: Suspended Timber Floor - Lined Below	2.6	Open	0.00	Carpet

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Bedroom 2	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Bedroom 3	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Bedroom Hallway	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Ensuite	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Garage	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes

\* Refer to glossary.

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Hallway	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Kitchen/Living	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
Master Bedroom	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes
WIR	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	3.50	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 2	2	Downlight	100	Sealed
Bedroom 3	2	Downlight	100	Sealed
Bedroom Hallway	1	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Garage	3	Downlight	100	Sealed
Hallway	1	Downlight	100	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Master Bedroom	3	Downlight	100	Sealed
WIR	1	Downlight	100	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
Bedroom 2	1	1400
Bedroom 3	1	1400
Kitchen/Living	1	1400
Master Bedroom	1	1400

\* Refer to glossary.



## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) + Flat PB Ceiling	1.30	0.73	Dark (Monument)

## 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

## 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 10 m 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).

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.

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-B849IG-01

Generated on 01 Jul 2021 using HERO v1.2-beta

### Property

**Address** 31 - 43 Matong Drive, OCEAN SHORES,  
NSW, 2483

**Lot/DP** 3//1243658

**NCC Class\*** 1a

**Type** New

### Plans

**Main Plan** Project No. 20034

**Prepared by** Story Design Collective

### Construction and environment

Assessed floor area (m <sup>2</sup> )*		Exposure Type
Conditioned*	96.1	Suburban
Unconditioned*	5.4	<b>NatHERS climate zone</b>
<b>Total</b>	<b>121.8</b>	<b>10 - Brisbane AMO</b>
<b>Garage</b>	<b>20.4</b>	



### Accredited assessor

**Name** Duncan Hope

**Business name** Senica Consultancy Group

**Email** duncan@senica.com.au

**Phone** +61 280067784

**Accreditation No.** DMN/14/1658

**Assessor Accrediting Organisation** DMN

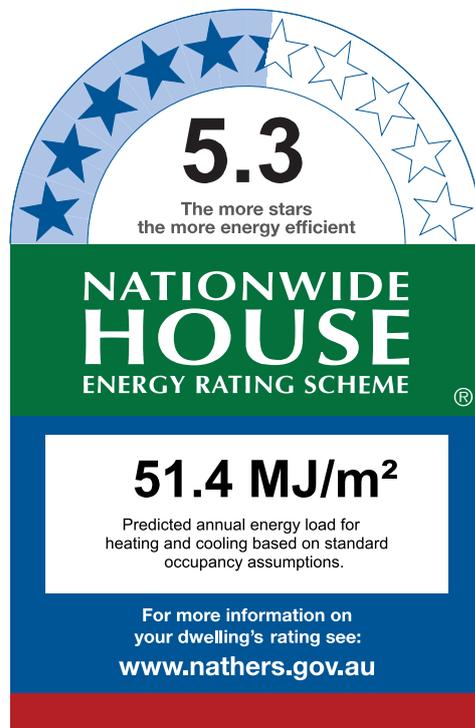
**Declaration of interest** No Conflict of Interest

### 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.



### Thermal Performance

Heating	Cooling
<b>16.4</b>	<b>35.0</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-B849IG-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.

## 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?

## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
A&L-003-01 A	Al Sliding Window SG 3Clr	6.15	0.78	0.74	0.82

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	A&L-003-01 A	0615s	600	1500	Sliding	45	SSE	None
Bedroom 02	A&L-003-01 A	0921s	900	2100	Sliding	45	SSE	None
Bedroom 03	A&L-003-01 A	1221s	1200	2100	Sliding	45	ENE	None

\* Refer to glossary.

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Ensuite	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Garage	A&L-003-01 A	0615s	600	1500	Sliding	45	SSE	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	0624a	600	2400	Awning	45	NNW	None
Kitchen/Living	A&L-003-01 A	0624a	600	2400	Awning	45	NNW	None
Kitchen/Living	A&L-003-01 A	2434sd	2400	3400	Sliding	66	ENE	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	0630a	600	3600	Awning	30	NNW	None
Master Bedroom	A&L-003-01 A	0627a	600	2700	Awning	45	WSW	None
Master Bedroom	A&L-003-01 A	0624s	600	2400	Sliding	45	NNW	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

## Skylight *type and performance*

Skylight ID	Skylight description
None	

\* Refer to glossary.

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry	2200	920	90	WSW
Garage	2200	2700	90	WSW

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
FC-REFL-CAV	FC-REFL-CAV: Fibre-Cement Clad Battened (Refl Cavity) Stud Wall	0.32	Light (Surfmist)	2.00	Yes
WB-REFL-CAV	WB-REFL-CAV: Weatherboard Battened (Refl Cavity) Stud Wall	0.50	Medium	2.00	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	WB-REFL-CAV	2700	2695	SSE		Yes
Bedroom 02	WB-REFL-CAV	2700	3592	SSE		Yes
Bedroom 02	WB-REFL-CAV	2700	17	ENE		Yes
Bedroom 03	WB-REFL-CAV	2700	3081	ENE	556	No
Bedroom 03	WB-REFL-CAV	2700	3570	SSE		Yes
Bedroom 03	WB-REFL-CAV	2700	813	NNW	4963	Yes
Ensuite	FC-REFL-CAV	2700	2176	NNW		Yes
Ensuite	WB-REFL-CAV	2700	14	ENE		Yes
Entry	WB-REFL-CAV	2700	1193	WSW	3008	Yes
Garage	WB-REFL-CAV	2700	3173	WSW	1309	Yes
Garage	WB-REFL-CAV	2700	1699	NNW	4926	Yes
Garage	WB-REFL-CAV	2700	6582	SSE		No
Garage	WB-REFL-CAV	2700	100	ENE		Yes
Kitchen/Living	FC-REFL-CAV	3500	609	ENE		Yes

\* Refer to glossary.

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Kitchen/Living	WB-REFL-CAV	3500	6403	NNW	693	Yes
Kitchen/Living	WB-REFL-CAV	3100	4175	ENE	3529	Yes
Kitchen/Living	WB-REFL-CAV	2700	85	SSE		Yes
Kitchen/Living	FC-REFL-CAV	2700	3779	NNW		Yes
Kitchen/Living	WB-REFL-CAV	2700	113	WSW		Yes
Kitchen/Living	WB-REFL-CAV	800	3763	NNW		Yes
Master Bedroom	FC-REFL-CAV	2700	3458	WSW	707	No
Master Bedroom	FC-REFL-CAV	2700	3977	NNW		Yes
Master Bedroom	FC-REFL-CAV	2700	2316	SSE	4725	Yes

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	87.7	0.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-002: Suspended Timber Floor - Lined Below	5.4	Open	0.00	Tile
Bedroom 02	TIMB-002: Suspended Timber Floor - Lined Below	10.7	Open	0.00	Carpet
Bedroom 03	TIMB-002: Suspended Timber Floor - Lined Below	11.0	Open	0.00	Carpet
Ensuite	TIMB-002: Suspended Timber Floor - Lined Below	6.0	Open	0.00	Tile
Entry	TIMB-002: Suspended Timber Floor - Lined Below	4.7	Open	0.00	Tile
Garage	CSOG-100: Concrete Slab on Ground (100mm)	20.4	N/A	0.00	Exposed
Hallway	TIMB-002: Suspended Timber Floor - Lined Below	2.6	Open	0.00	Tile
Kitchen/Living	TIMB-002: Suspended Timber Floor - Lined Below	45.7	Open	0.00	Tile
Master Bedroom	TIMB-002: Suspended Timber Floor - Lined Below	15.3	Open	0.00	Carpet

\* Refer to glossary.

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 02	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 03	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Ensuite	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Entry	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Garage	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Hallway	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Kitchen/Living	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Master Bedroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Entry	1	Downlight	100	Sealed
Garage	3	Downlight	100	Sealed
Hallway	1	Downlight	100	Sealed
Kitchen/Living	7	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Master Bedroom	3	Downlight	100	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
Bedroom 02	1	1400
Bedroom 03	1	1400
Kitchen/Living	1	1400

\* Refer to glossary.



## Ceiling fans

Location	Quantity	Diameter (mm)
Master Bedroom	1	1400

## Roof type

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

## 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 10 m 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).

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-FB4PHN-01

Generated on 01 Jul 2021 using HERO v1.2-beta

### Property

**Address** 32 - 43 Matong Drive, OCEAN SHORES,  
NSW, 2483

**Lot/DP** 3//1243658

**NCC Class\*** 1a

**Type** New

### Plans

**Main Plan** Project No. 20034

**Prepared by** Story Design Collective

### Construction and environment

Assessed floor area (m <sup>2</sup> )*		Exposure Type
Conditioned*	96.1	Suburban
Unconditioned*	5.4	<b>NatHERS climate zone</b>
<b>Total</b>	<b>121.8</b>	<b>10 - Brisbane AMO</b>
<b>Garage</b>	<b>20.4</b>	



### Accredited assessor

**Name** Duncan Hope

**Business name** Senica Consultancy Group

**Email** duncan@senica.com.au

**Phone** +61 280067784

**Accreditation No.** DMN/14/1658

**Assessor Accrediting Organisation** DMN

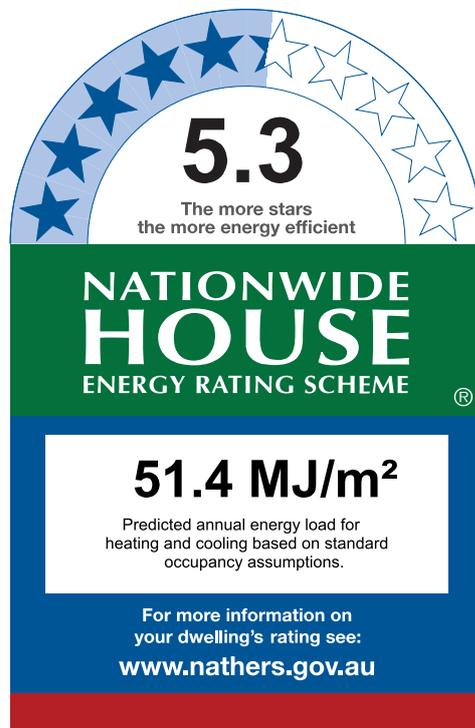
**Declaration of interest** No Conflict of Interest

### 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.



### Thermal Performance

Heating	Cooling
<b>16.4</b>	<b>35.0</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-FB4PHN-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.



## 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?

## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
A&L-003-01 A	Al Sliding Window SG 3Clr	6.15	0.78	0.74	0.82

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	A&L-003-01 A	0615s	600	1500	Sliding	45	SSE	None
Bedroom 02	A&L-003-01 A	0921s	900	2100	Sliding	45	SSE	None
Bedroom 03	A&L-003-01 A	1221s	1200	2100	Sliding	45	ENE	None

\* Refer to glossary.

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Ensuite	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Garage	A&L-003-01 A	0615s	600	1500	Sliding	45	SSE	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	0624a	600	2400	Awning	45	NNW	None
Kitchen/Living	A&L-003-01 A	0624a	600	2400	Awning	45	NNW	None
Kitchen/Living	A&L-003-01 A	2434sd	2400	3400	Sliding	66	ENE	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	0630a	600	3600	Awning	30	NNW	None
Master Bedroom	A&L-003-01 A	0627a	600	2700	Awning	45	WSW	None
Master Bedroom	A&L-003-01 A	0624s	600	2400	Sliding	45	NNW	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

## Skylight *type and performance*

Skylight ID	Skylight description
None	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry	2200	920	90	WSW
Garage	2200	2700	90	WSW

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
FC-REFL-CAV	FC-REFL-CAV: Fibre-Cement Clad Battened (Refl Cavity) Stud Wall	0.32	Light (Surfmist)	2.00	Yes
WB-REFL-CAV	WB-REFL-CAV: Weatherboard Battened (Refl Cavity) Stud Wall	0.50	Medium	2.00	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	WB-REFL-CAV	2700	2695	SSE		Yes
Bedroom 02	WB-REFL-CAV	2700	3592	SSE		Yes
Bedroom 02	WB-REFL-CAV	2700	17	ENE		Yes
Bedroom 03	WB-REFL-CAV	2700	3081	ENE	556	No
Bedroom 03	WB-REFL-CAV	2700	3570	SSE		Yes
Bedroom 03	WB-REFL-CAV	2700	813	NNW	4963	Yes
Ensuite	FC-REFL-CAV	2700	2176	NNW		Yes
Ensuite	WB-REFL-CAV	2700	14	ENE		Yes
Entry	WB-REFL-CAV	2700	1193	WSW	3008	Yes
Garage	WB-REFL-CAV	2700	3173	WSW	1309	Yes
Garage	WB-REFL-CAV	2700	1699	NNW	4926	Yes
Garage	WB-REFL-CAV	2700	6582	SSE		No
Garage	WB-REFL-CAV	2700	100	ENE		Yes
Kitchen/Living	FC-REFL-CAV	3500	609	ENE		Yes

\* Refer to glossary.

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Kitchen/Living	WB-REFL-CAV	3500	6403	NNW	693	Yes
Kitchen/Living	WB-REFL-CAV	3100	4175	ENE	3529	Yes
Kitchen/Living	WB-REFL-CAV	2700	85	SSE		Yes
Kitchen/Living	FC-REFL-CAV	2700	3779	NNW		Yes
Kitchen/Living	WB-REFL-CAV	2700	113	WSW		Yes
Kitchen/Living	WB-REFL-CAV	800	3763	NNW		Yes
Master Bedroom	FC-REFL-CAV	2700	3458	WSW	707	No
Master Bedroom	FC-REFL-CAV	2700	3977	NNW		Yes
Master Bedroom	FC-REFL-CAV	2700	2316	SSE	4505	Yes

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	87.7	0.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-002: Suspended Timber Floor - Lined Below	5.4	Open	0.00	Tile
Bedroom 02	TIMB-002: Suspended Timber Floor - Lined Below	10.7	Open	0.00	Carpet
Bedroom 03	TIMB-002: Suspended Timber Floor - Lined Below	11.0	Open	0.00	Carpet
Ensuite	TIMB-002: Suspended Timber Floor - Lined Below	6.0	Open	0.00	Tile
Entry	TIMB-002: Suspended Timber Floor - Lined Below	4.7	Open	0.00	Tile
Garage	CSOG-100: Concrete Slab on Ground (100mm)	20.4	N/A	0.00	Exposed
Hallway	TIMB-002: Suspended Timber Floor - Lined Below	2.6	Open	0.00	Tile
Kitchen/Living	TIMB-002: Suspended Timber Floor - Lined Below	45.7	Open	0.00	Tile
Master Bedroom	TIMB-002: Suspended Timber Floor - Lined Below	15.3	Open	0.00	Carpet

\* Refer to glossary.

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 02	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 03	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Ensuite	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Entry	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Garage	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Hallway	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Kitchen/Living	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Master Bedroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Entry	1	Downlight	100	Sealed
Garage	3	Downlight	100	Sealed
Hallway	1	Downlight	100	Sealed
Kitchen/Living	7	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Master Bedroom	3	Downlight	100	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
Bedroom 02	1	1400
Bedroom 03	1	1400
Kitchen/Living	1	1400

\* Refer to glossary.



## Ceiling fans

Location	Quantity	Diameter (mm)
Master Bedroom	1	1400

## Roof type

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

## 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) licenced 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 10 m 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).

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-I3G7I7-01

Generated on 01 Jul 2021 using HERO v1.2-beta

### Property

**Address** 33 - 43 Matong Drive, OCEAN SHORES,  
NSW, 2483

**Lot/DP** 3//1243658

**NCC Class\*** 1a

**Type** New

### Plans

**Main Plan** Project No. 20034

**Prepared by** Story Design Collective

### Construction and environment

Assessed floor area (m <sup>2</sup> )*		Exposure Type
Conditioned*	96.1	Suburban
Unconditioned*	5.4	<b>NatHERS climate zone</b>
<b>Total</b>	<b>121.8</b>	<b>10 - Brisbane AMO</b>
<b>Garage</b>	<b>20.4</b>	



### Accredited assessor

**Name** Duncan Hope

**Business name** Senica Consultancy Group

**Email** duncan@senica.com.au

**Phone** +61 280067784

**Accreditation No.** DMN/14/1658

**Assessor Accrediting Organisation** DMN

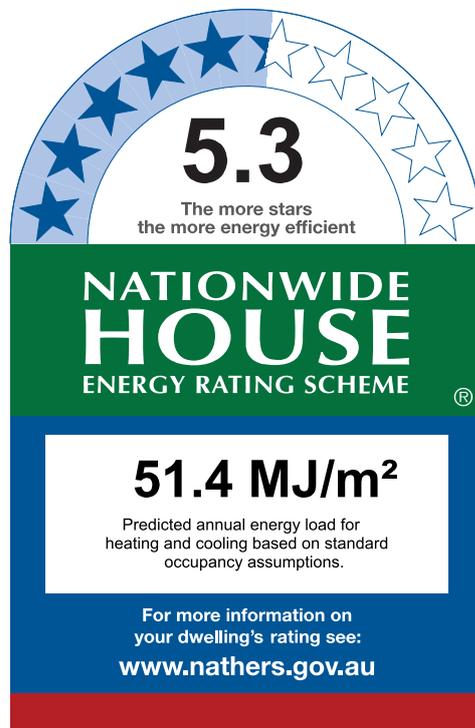
**Declaration of interest** No Conflict of Interest

### 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.



### Thermal Performance

Heating	Cooling
<b>16.4</b>	<b>35.0</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-I3G7I7-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.

## 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?

## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
A&L-003-01 A	Al Sliding Window SG 3Clr	6.15	0.78	0.74	0.82

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	A&L-003-01 A	0615s	600	1500	Sliding	45	SSE	None
Bedroom 02	A&L-003-01 A	0921s	900	2100	Sliding	45	SSE	None
Bedroom 03	A&L-003-01 A	1221s	1200	2100	Sliding	45	ENE	None

\* Refer to glossary.

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Shading device*
Ensuite	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Garage	A&L-003-01 A	0615s	600	1500	Sliding	45	SSE	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	0624a	600	2400	Awning	45	NNW	None
Kitchen/Living	A&L-003-01 A	0624a	600	2400	Awning	45	NNW	None
Kitchen/Living	A&L-003-01 A	2434sd	2400	3400	Sliding	66	ENE	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	0630a	600	3600	Awning	30	NNW	None
Master Bedroom	A&L-003-01 A	0627a	600	2700	Awning	45	WSW	None
Master Bedroom	A&L-003-01 A	0624s	600	2400	Sliding	45	NNW	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
None								

## Skylight *type and performance*

Skylight ID	Skylight description
None	

\* Refer to glossary.

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry	2200	920	90	WSW
Garage	2200	2700	90	WSW

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
FC-REFL-CAV	FC-REFL-CAV: Fibre-Cement Clad Battened (Refl Cavity) Stud Wall	0.32	Light (Surfmist)	2.00	Yes
WB-REFL-CAV	WB-REFL-CAV: Weatherboard Battened (Refl Cavity) Stud Wall	0.50	Medium	2.00	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	WB-REFL-CAV	2700	2695	SSE		Yes
Bedroom 02	WB-REFL-CAV	2700	3592	SSE		Yes
Bedroom 02	WB-REFL-CAV	2700	17	ENE		Yes
Bedroom 03	WB-REFL-CAV	2700	3081	ENE	556	No
Bedroom 03	WB-REFL-CAV	2700	3570	SSE		Yes
Bedroom 03	WB-REFL-CAV	2700	813	NNW	4963	Yes
Ensuite	FC-REFL-CAV	2700	2176	NNW		Yes
Ensuite	WB-REFL-CAV	2700	14	ENE		Yes
Entry	WB-REFL-CAV	2700	1193	WSW	3008	Yes
Garage	WB-REFL-CAV	2700	3173	WSW	1309	Yes
Garage	WB-REFL-CAV	2700	1699	NNW	4926	Yes
Garage	WB-REFL-CAV	2700	6582	SSE		No
Garage	WB-REFL-CAV	2700	100	ENE		Yes
Kitchen/Living	FC-REFL-CAV	3500	609	ENE		Yes

\* Refer to glossary.

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Kitchen/Living	WB-REFL-CAV	3500	6403	NNW	693	Yes
Kitchen/Living	WB-REFL-CAV	3100	4175	ENE	3529	Yes
Kitchen/Living	WB-REFL-CAV	2700	85	SSE		Yes
Kitchen/Living	FC-REFL-CAV	2700	3779	NNW		Yes
Kitchen/Living	WB-REFL-CAV	2700	113	WSW		Yes
Kitchen/Living	WB-REFL-CAV	800	3763	NNW		Yes
Master Bedroom	FC-REFL-CAV	2700	3458	WSW	707	No
Master Bedroom	FC-REFL-CAV	2700	3977	NNW		Yes
Master Bedroom	FC-REFL-CAV	2700	2316	SSE	4505	Yes

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	87.7	0.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-002: Suspended Timber Floor - Lined Below	5.4	Open	0.00	Tile
Bedroom 02	TIMB-002: Suspended Timber Floor - Lined Below	10.7	Open	0.00	Carpet
Bedroom 03	TIMB-002: Suspended Timber Floor - Lined Below	11.0	Open	0.00	Carpet
Ensuite	TIMB-002: Suspended Timber Floor - Lined Below	6.0	Open	0.00	Tile
Entry	TIMB-002: Suspended Timber Floor - Lined Below	4.7	Open	0.00	Tile
Garage	CSOG-100: Concrete Slab on Ground (100mm)	20.4	N/A	0.00	Exposed
Hallway	TIMB-002: Suspended Timber Floor - Lined Below	2.6	Open	0.00	Tile
Kitchen/Living	TIMB-002: Suspended Timber Floor - Lined Below	45.7	Open	0.00	Tile
Master Bedroom	TIMB-002: Suspended Timber Floor - Lined Below	15.3	Open	0.00	Carpet

\* Refer to glossary.

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 02	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 03	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Ensuite	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Entry	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Garage	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Hallway	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Kitchen/Living	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Master Bedroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Entry	1	Downlight	100	Sealed
Garage	3	Downlight	100	Sealed
Hallway	1	Downlight	100	Sealed
Kitchen/Living	7	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Master Bedroom	3	Downlight	100	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
Bedroom 02	1	1400
Bedroom 03	1	1400
Kitchen/Living	1	1400

\* Refer to glossary.



## Ceiling fans

Location	Quantity	Diameter (mm)
Master Bedroom	1	1400

## Roof type

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

## 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) licenced 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

## 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 10 m 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).

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.

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-YRCQ25-01

Generated on 01 Jul 2021 using HERO v1.2-beta

### Property

**Address** 34 - 43 Matong Drive, OCEAN SHORES,  
NSW, 2483

**Lot/DP** 3//1243658

**NCC Class\*** 1a

**Type** New

### Plans

**Main Plan** Project No. 20034

**Prepared by** Story Design Collective

### Construction and environment

Assessed floor area (m <sup>2</sup> )*		Exposure Type
Conditioned*	122.3	Suburban
Unconditioned*	5.5	<b>NatHERS climate zone</b>
<b>Total</b>	<b>149.0</b>	<b>10 - Brisbane AMO</b>
<b>Garage</b>	<b>21.2</b>	



### Accredited assessor

**Name** Duncan Hope

**Business name** Senica Consultancy Group

**Email** duncan@senica.com.au

**Phone** +61 280067784

**Accreditation No.** DMN/14/1658

**Assessor Accrediting Organisation** DMN

**Declaration of interest** No Conflict of Interest

### 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.

**6.0**  
The more stars  
the more energy efficient

**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME

**42.9 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>15.2</b>	<b>27.7</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-YRCQ25-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.

## 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?

## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
A&L-003-01 A	Al Sliding Window SG 3Clr	6.15	0.78	0.74	0.82

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	A&L-003-01 A	0615s	600	1500	Sliding	45	SSE	None
Bedroom 02	A&L-003-01 A	0921s	800	2100	Sliding	45	SSE	None
Bedroom 03	A&L-003-01 A	0924s	800	2400	Sliding	45	NNW	None

\* Refer to glossary.

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Shading device*
Garage	A&L-003-01 A	2121sd	800	2100	Sliding	45	SSE	None
Kitchen Living	A&L-003-01 A	2434sd	800	3400	Sliding	66	ENE	None
Kitchen Living	A&L-003-01 A	2108dh	800	800	Sliding	45	NNW	None
Kitchen Living	A&L-003-01 A	0621d	600	2100	Sliding	45	NNW	None
Kitchen Living	A&L-003-01 A	0621s	600	2100	Sliding	45	NNW	None
Kitchen Living	A&L-003-01 A	0621s	600	2100	Sliding	45	NNW	None
Kitchen Living	A&L-003-01 A	2108dh	800	800	Sliding	45	WSW	None
Master Bedroom	A&L-003-01 A	2427sd	800	2700	Sliding	45	WSW	None
Master Bedroom	A&L-003-01 A	0624s	600	2400	Sliding	45	NNW	None
Retreat	A&L-003-01 A	2427sd	800	2700	Sliding	45	WSW	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
None								

## Skylight *type and performance*

Skylight ID	Skylight description
None	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry	2200	920	90	ENE
Garage	2200	2700	90	ENE

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
WB-REFL-CAV	WB-REFL-CAV: Weatherboard Battened (Refl Cavity) Stud Wall	0.32	Light (Surfmist)	2.50	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	WB-REFL-CAV	2550	2730	SSE		Yes
Bedroom 02	WB-REFL-CAV	2550	3579	SSE		Yes
Bedroom 03	WB-REFL-CAV	2550	3179	NNW	661	Yes
Ensuite	WB-REFL-CAV	2550	2505	SSE		Yes
Entry	WB-REFL-CAV	2550	1118	ENE	1940	Yes
Entry	WB-REFL-CAV	2550	90	NNW		Yes
Garage	WB-REFL-CAV	2550	105	WSW		Yes
Garage	WB-REFL-CAV	2550	3199	ENE	593	Yes
Garage	WB-REFL-CAV	2550	6563	SSE		No
Garage	WB-REFL-CAV	2550	1349	NNW	5792	Yes
Kitchen Living	WB-REFL-CAV	2550	4173	ENE	3108	Yes
Kitchen Living	WB-REFL-CAV	2550	10565	NNW	309	No
Kitchen Living	WB-REFL-CAV	2550	1166	WSW	8572	Yes
Master Bedroom	WB-REFL-CAV	2550	3579	WSW	589	No
Master Bedroom	WB-REFL-CAV	2550	4565	NNW	652	Yes
Retreat	WB-REFL-CAV	2550	3667	WSW	582	No

\* Refer to glossary.

Retreat	WB-REFL-CAV	2550	4183	SSE	Yes
---------	-------------	------	------	-----	-----

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	70.8	0.00
INT-PB	Internal Plasterboard Stud Wall	37.1	2.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-002: Suspended Timber Floor - Lined Below	5.5	Open	0.96	Tile
Bedroom 02	TIMB-002: Suspended Timber Floor - Lined Below	10.7	Open	0.96	Carpet
Bedroom 03	TIMB-002: Suspended Timber Floor - Lined Below	11.4	Open	0.96	Carpet
Ensuite	TIMB-002: Suspended Timber Floor - Lined Below	5.0	Open	0.96	Tile
Entry	TIMB-002: Suspended Timber Floor - Lined Below	5.0	Open	0.96	Tile
Garage	CSOG-100: Concrete Slab on Ground (100mm)	21.2	N/A	0.00	Exposed
Hallway	TIMB-002: Suspended Timber Floor - Lined Below	3.3	Open	0.96	Tile
Kitchen Living	TIMB-002: Suspended Timber Floor - Lined Below	51.2	Open	0.96	Tile
Master Bedroom	TIMB-002: Suspended Timber Floor - Lined Below	16.4	Open	0.96	Carpet
Retreat	TIMB-002: Suspended Timber Floor - Lined Below	15.1	Open	0.96	Carpet
Retreat Hallway	TIMB-002: Suspended Timber Floor - Lined Below	4.2	Open	0.96	Carpet

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 02	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 03	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Ensuite	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Entry	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes

\* Refer to glossary.

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Garage	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Hallway	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Kitchen Living	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Master Bedroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Retreat	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Retreat Hallway	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Entry	1	Downlight	100	Sealed
Garage	4	Downlight	100	Sealed
Hallway	1	Downlight	100	Sealed
Kitchen Living	8	Downlight	100	Sealed
Kitchen Living	1	Exhaust Fan	250	Sealed
Master Bedroom	3	Downlight	100	Sealed
Retreat	3	Downlight	100	Sealed
Retreat Hallway	1	Downlight	100	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
Bedroom 02	1	1400
Bedroom 03	1	1400
Kitchen Living	1	1400
Master Bedroom	1	1400

\* Refer to glossary.



## Ceiling fans

Location	Quantity	Diameter (mm)
Retreat	1	1400

## Roof type

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

## 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) licenced 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

## 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 10 m 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).

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.

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-SBY25S-01

Generated on 01 Jul 2021 using HERO v1.2-beta

### Property

**Address** 35 - 43 Matong Drive, OCEAN SHORES,  
NSW, 2483

**Lot/DP** 3//1243658

**NCC Class\*** 1a

**Type** New

### Plans

**Main Plan** Project No. 20034

**Prepared by** Story Design Collective

### Construction and environment

Assessed floor area (m <sup>2</sup> )*		Exposure Type
Conditioned*	105.7	Suburban
Unconditioned*	6.3	<b>NatHERS climate zone</b>
<b>Total</b>	<b>132.5</b>	<b>10 - Brisbane AMO</b>
<b>Garage</b>	<b>20.4</b>	



### Accredited assessor

**Name** Duncan Hope

**Business name** Senica Consultancy Group

**Email** duncan@senica.com.au

**Phone** +61 280067784

**Accreditation No.** DMN/14/1658

**Assessor Accrediting Organisation** DMN

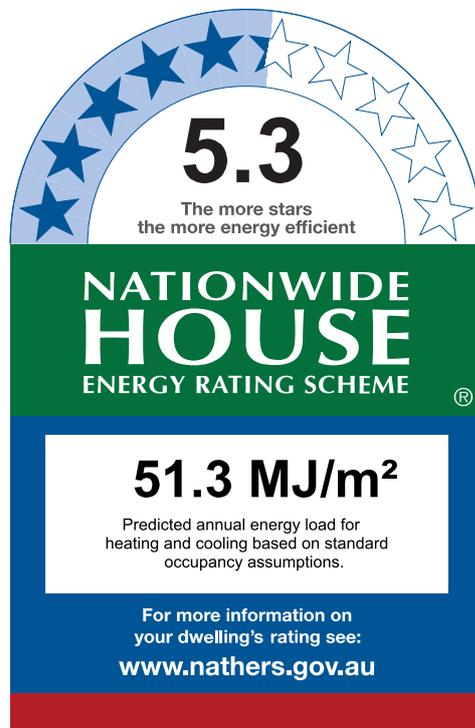
**Declaration of interest** No Conflict of Interest

### 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.



### Thermal Performance

Heating	Cooling
<b>12.7</b>	<b>38.6</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-SBY25S-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.

## 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?

## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
A&L-003-01 A	Al Sliding Window SG 3Clr	6.15	0.78	0.74	0.82

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	A&L-003-01 A	0615s	600	1500	Sliding	45	SSE	None
Bedroom 02	A&L-003-01 A	1221s	1200	2100	Sliding	45	WSW	None
Bedroom 02	A&L-003-01 A	0921s	900	2100	Sliding	45	SSE	None

\* Refer to glossary.

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Ensuite	A&L-003-01 A	2108dh	2100	800	Double Hung	45	WSW	None
Garage	A&L-003-01 A	2121sd	2100	2100	Sliding	45	SSE	None
Kitchen/Living	A&L-003-01 A	2434sd	2400	3400	Sliding	66	ENE	None
Kitchen/Living	A&L-003-01 A	2108dh	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	2108d	2100	800	Double Hung	45	NNW	None
Kitchen/Living	A&L-003-01 A	0921s	900	2100	Sliding	45	NNW	None
Kitchen/Living	A&L-003-01 A	0921s	900	2100	Sliding	45	NNW	None
Master Bedroom	A&L-003-01 A	2108dh	2100	800	Double Hung	45	WSW	None
Master Bedroom	A&L-003-01 A	0624s	600	2400	Sliding	45	NNW	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
None								

## Skylight *type and performance*

Skylight ID	Skylight description
None	

## Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry	2200	920	90	ENE
Garage	2200	2700	90	ENE

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
WB-REFL-CAV	WB-REFL-CAV: Weatherboard Battened (Refl Cavity) Stud Wall	0.32	Light (Surfmist)	2.00	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	WB-REFL-CAV	2700	2170	SSE		Yes
Bedroom 02	WB-REFL-CAV	2700	3688	WSW	567	No
Bedroom 02	WB-REFL-CAV	2700	26	NNW		Yes
Bedroom 02	WB-REFL-CAV	2700	3174	SSE		Yes
Bedroom 02	WB-REFL-CAV	2700	3569	SSE		Yes
Ensuite	WB-REFL-CAV	2700	1681	WSW	597	Yes
Entry	WB-REFL-CAV	2700	1112	ENE	1109	Yes
Entry	WB-REFL-CAV	2700	93	NNW		Yes
Garage	WB-REFL-CAV	2700	101	WSW		Yes
Garage	WB-REFL-CAV	2550	3190	ENE	408	No
Garage	WB-REFL-CAV	2550	6585	SSE		No
Garage	WB-REFL-CAV	2550	696	NNW	6133	Yes
Kitchen/Living	WB-REFL-CAV	2700	4179	ENE	3379	Yes
Kitchen/Living	WB-REFL-CAV	2700	4181	NNW		No
Kitchen/Living	WB-REFL-CAV	2700	616	ENE		Yes
Kitchen/Living	WB-REFL-CAV	2700	6418	NNW	650	Yes
Master Bedroom	WB-REFL-CAV	2700	3564	WSW	525	No
Master Bedroom	WB-REFL-CAV	2700	4386	NNW		No

\* Refer to glossary.

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Master Bedroom	WB-REFL-CAV	2700	12	SSE		Yes

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	111.0	0.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-001: Suspended Timber Floor	6.3	Open	0.00	Tile
Bedroom 02	TIMB-001: Suspended Timber Floor	22.2	Open	0.00	Carpet
Bedroom Hallway	TIMB-001: Suspended Timber Floor	5.6	Open	0.00	Tile
Ensuite	TIMB-001: Suspended Timber Floor	5.0	Open	0.00	Tile
Entry	TIMB-001: Suspended Timber Floor	5.1	Open	0.00	Carpet
Garage	CSOG-100: Concrete Slab on Ground (100mm)	20.4	N/A	0.00	Exposed
Kitchen/Living	TIMB-001: Suspended Timber Floor	52.1	Open	0.00	Tile
Master Bedroom	TIMB-001: Suspended Timber Floor	15.7	Open	0.00	Carpet

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 02	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom Hallway	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Ensuite	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Entry	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Garage	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Kitchen/Living	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Master Bedroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes

\* Refer to glossary.



## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 02	4	Downlight	100	Sealed
Bedroom Hallway	1	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Entry	1	Downlight	100	Sealed
Garage	3	Downlight	100	Sealed
Kitchen/Living	8	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Master Bedroom	3	Downlight	100	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 Ceiling	1.30	0.73	Dark (Monument)

\* Refer to glossary.

## 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) licenced 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 10 m 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).

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-BJONIZ-01

Generated on 01 Jul 2021 using HERO v1.2-beta

### Property

**Address** 36 - 43 Matong Drive, OCEAN SHORES,  
NSW, 2483

**Lot/DP** 3//1243658

**NCC Class\*** 1a

**Type** New

### Plans

**Main Plan** Project No. 20034

**Prepared by** Story Design Collective

### Construction and environment

Assessed floor area (m <sup>2</sup> )*		Exposure Type
Conditioned*	97.7	Suburban
Unconditioned*	5.4	<b>NatHERS climate zone</b>
<b>Total</b>	<b>123.7</b>	<b>10 - Brisbane AMO</b>
<b>Garage</b>	<b>20.5</b>	



### Accredited assessor

**Name** Duncan Hope

**Business name** Senica Consultancy Group

**Email** duncan@senica.com.au

**Phone** +61 280067784

**Accreditation No.** DMN/14/1658

**Assessor Accrediting Organisation** DMN

**Declaration of interest** No Conflict of Interest

### 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.

**5.8**  
The more stars  
the more energy efficient

**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME

**45.0 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>10.9</b>	<b>34.1</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-BJONIZ-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.

## 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?

## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
A&L-003-01 A	Al Sliding Window SG 3Clr	6.15	0.78	0.74	0.82

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
Bathroom	A&L-003-01 A	0615s	800	1500	Sliding	45	WSW	None
Bedroom 02	A&L-003-01 A	0921s	800	2100	Sliding	45	WSW	None
Bedroom 03	A&L-003-01 A	1221s	800	2100	Sliding	45	NNW	None

\* Refer to glossary.

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Shading device*
Ensuite	A&L-003-01 A	2108dh	800	800	Sliding	45	ENE	None
Garage	A&L-003-01 A	2121sd	800	2100	Sliding	45	WSW	None
Kitchen/Living	A&L-003-01 A	2434sd	800	3400	Sliding	30	ENE	None
Kitchen/Living	A&L-003-01 A	2108dh	800	800	Sliding	45	ENE	None
Kitchen/Living	A&L-003-01 A	2108dh	800	800	Sliding	45	ENE	None
Master Bedroom	A&L-003-01 A	0624s	800	2400	Sliding	45	ENE	None
Master Bedroom	A&L-003-01 A	2108dh	800	800	Sliding	45	SSE	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
None								

## Skylight *type and performance*

Skylight ID	Skylight description
None	

## Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

\* Refer to glossary.

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry	2200	920	90	SSE
Garage	2200	2700	90	SSE

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
WB-REFL-CAV	WB-REFL-CAV: Weatherboard Battened (Refl Cavity) Stud Wall	0.32	Light (Surfmist)	2.00	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	WB-REFL-CAV	2700	2724	WSW	574	Yes
Bedroom 02	WB-REFL-CAV	2700	3591	WSW	567	Yes
Bedroom 03	WB-REFL-CAV	2700	3787	WSW	576	Yes
Bedroom 03	WB-REFL-CAV	2700	3081	NNW	555	No
Ensuite	WB-REFL-CAV	2700	2218	ENE	546	No
Entry	WB-REFL-CAV	2700	1191	SSE	2282	Yes
Garage	WB-REFL-CAV	2700	6589	WSW		No
Garage	WB-REFL-CAV	2700	101	NNW		Yes
Garage	WB-REFL-CAV	2700	3190	SSE	590	Yes
Garage	WB-REFL-CAV	2700	1690	ENE	1179	Yes
Kitchen/Living	WB-REFL-CAV	2700	4786	NNW	566	No
Kitchen/Living	WB-REFL-CAV	2700	4252	ENE	3419	No
Kitchen/Living	WB-REFL-CAV	2700	4682	ENE	3420	No
Master Bedroom	WB-REFL-CAV	2700	3975	ENE	539	No
Master Bedroom	WB-REFL-CAV	2700	3505	SSE	413	Yes

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	103.7	0.00

\* Refer to glossary.

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-001: Suspended Timber Floor	5.4	Open	0.00	Tile
Bedroom 02	TIMB-001: Suspended Timber Floor	10.8	Open	0.00	Carpet
Bedroom 03	TIMB-001: Suspended Timber Floor	11.7	Open	0.00	Carpet
Ensuite	TIMB-001: Suspended Timber Floor	6.1	Open	0.00	Tile
Entry	TIMB-001: Suspended Timber Floor	8.3	Open	0.00	Tile
Garage	CSOG-100: Concrete Slab on Ground (100mm)	20.5	N/A	0.00	Exposed
Hallway	TIMB-001: Suspended Timber Floor	2.7	Open	0.00	Tile
Kitchen/Living	TIMB-001: Suspended Timber Floor	42.7	Open	0.00	Tile
Master Bedroom	TIMB-001: Suspended Timber Floor	15.4	Open	0.00	Carpet

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 02	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Bedroom 03	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Ensuite	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Entry	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Garage	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Hallway	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Kitchen/Living	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes
Master Bedroom	FLAT-01: Flat Framed / Skillion Metal Roof + Flat Ceiling	3.50	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed

\* Refer to glossary.



## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
Ensuite	1	Downlight	100	Sealed
Entry	2	Downlight	100	Sealed
Garage	3	Downlight	100	Sealed
Hallway	1	Downlight	100	Sealed
Kitchen/Living	7	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	250	Sealed
Master Bedroom	3	Downlight	100	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 Ceiling	1.30	0.73	Dark (Monument)

\* Refer to glossary.

## 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 10 m 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).