

# Nationwide House Energy Rating Scheme — Class 2 summary

## NatHERS Certificate No. 0006397070

Generated on 03 Aug 2023 using BERS Pro v4.4.1.5 (3.21)

### Property

**Address** 30 Fairlight Street , Fairlight , NSW , 2094

**Lot/DP** 50/705739

**NatHERS climate zone** 56

### Accredited assessor



Zoltan Lipovski

EcoMode Design

[zoltan@ecomode.com.au](mailto:zoltan@ecomode.com.au)

0410605614

**Accreditation No.** 20884

**Assessor Accrediting Organisation** ABSA



### Verification

To verify this certificate, scan the QR code or visit [www.hstar.com.au/QR/Generate?p=RPWIPjoww](http://www.hstar.com.au/QR/Generate?p=RPWIPjoww). When using either link, ensure you are visiting [www.hstar.com.au](http://www.hstar.com.au)

### Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m <sup>2</sup> /p.a.)	Cooling load (MJ/m <sup>2</sup> /p.a.)	Total load (MJ/m <sup>2</sup> /p.a.)	Star rating
<a href="#">0006397004-01</a>	1	27.6	26.6	54.2	5.8
<a href="#">0006397012-01</a>	2	20.6	24.6	45.2	6.4
<a href="#">0006397020-01</a>	3	18.4	24.4	42.9	6.7
<a href="#">0006397038-01</a>	4	18.5	27.4	45.9	6.4
<a href="#">0008811366-01</a>	5	40	22.9	62.9	5.2
<b>National Construction Code (NCC) requirements</b>		<b>25.02</b>	<b>25.18</b>	<b>50.22</b>	<b>6.1</b>

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.

## Explanatory notes

### About this report

This summary rating is the average rating of all NCC Class 2 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. 0006397004-01

Generated on 27 Jun 2022 using BERS Pro v4.4.1.5 (3.21)

### Property

**Address** Unit 1, 30 Fairlight Street, Fairlight, NSW, 2094  
**Lot/DP** 50/705739  
**NCC Class\*** 2  
**Type** New Dwelling

### Plans

**Main Plan** Project 12781 - Plans, Elevations Sections

**Prepared by** DKO Architecture

### Construction and environment

Assessed floor area (m <sup>2</sup> )*	Exposure Type
Conditioned* 138.0	Suburban
Unconditioned* 0.0	<b>NatHERS climate zone</b>
Total 138.0	56
Garage 0.0	



### Accredited assessor

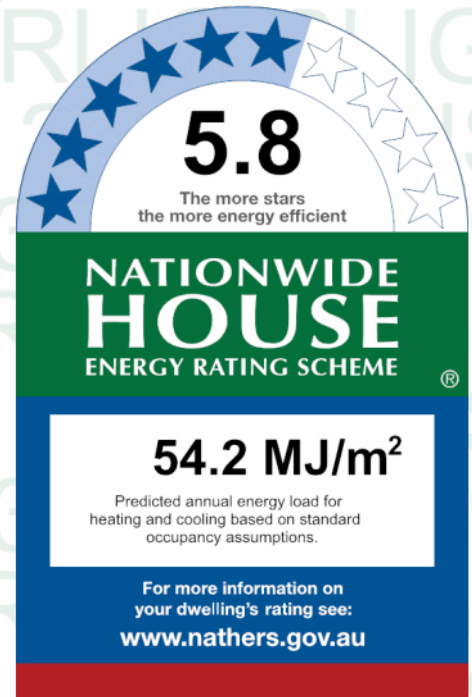
**Name** Zoltan Lipovski  
**Business name** EcoMode Design  
**Email** zoltan@ecomode.com.au  
**Phone** 0410605614  
**Accreditation No.** 20884  
**Assessor Accrediting Organisation** ABSA  
**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

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

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

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



### Thermal performance

Heating	Cooling
<b>27.6</b> MJ/m <sup>2</sup>	<b>26.6</b> MJ/m <sup>2</sup>

### About the rating

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

### Verification

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## Certificate check

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

### Genuine certificate

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

### Ceiling penetrations\*

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

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

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

### Exposure\*

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

### Provisional\* values

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

## Additional notes

I have modeled the shading in accordance with NatHERS principles

## Window and glazed door *type and performance*

### Default\* windows

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

### Custom\* windows

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

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2700	4200	n/a	66	S	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	1000	1700	n/a	45	W	No
Kitchen/Living	ALM-002-01 A	n/a	1000	1700	n/a	45	W	No
Kitchen/Living	ALM-001-01 A	n/a	2700	2000	n/a	95	W	No
Kitchen/Living	ALM-002-01 A	n/a	2700	1000	n/a	00	W	No
Bedroom 3	ALM-002-01 A	n/a	2700	700	n/a	10	S	No
Bedroom 2	ALM-002-01 A	n/a	2700	700	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	2150	900	n/a	00	W	No
Bedroom 1	ALM-001-01 A	n/a	2700	3599	n/a	66	N	No
Ensuite	ALM-001-01 A	n/a	800	1000	n/a	10	W	No

## Roof window type and performance

### Default\* roof windows

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

### Custom\* roof windows

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

## Roof window schedule

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

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

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

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
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Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Tilt up concrete, lined	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-2	Tilt up concrete, lined	0.30	Light	Anti-glare foil with bulk no gap R2.5	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	990	SE	0	NO
Kitchen/Living	EW-1	2700	4200	S	3500	NO
Kitchen/Living	EW-2	2700	5500	W	0	NO
Kitchen/Living	EW-2	2700	4639	W	0	YES
Kitchen/Living	EW-2	2700	5095	W	0	YES
Bedroom 3	EW-2	2700	1200	S	400	YES
Bedroom 3	EW-2	2700	728	W	0	YES
Bedroom 3	EW-2	2700	3795	W	0	YES
Bathroom	EW-2	2700	1690	W	0	NO
Bedroom 2	EW-2	2700	1995	W	0	YES
Bedroom 2	EW-2	2700	1503	W	0	YES
Bedroom 2	EW-2	2700	1000	N	300	YES
Bedroom 2	EW-2	2700	695	W	0	YES
Bedroom 1	EW-2	2700	3495	W	0	NO
Bedroom 1	EW-2	2700	3800	N	2000	NO
Bedroom 1	EW-2	2700	700	E	0	YES
Bedroom 1	EW-2	2700	849	NE	0	YES
Ensuite	EW-2	2700	3290	W	0	NO

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		90.00	No insulation
IW-2 - AAC, multi plaster layers on studs		89.00	No insulation one side, Bulk Insulation the other R2.5

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Suspended Concrete Slab 150mm	63.20	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Cork Tiles or Parquetry 8mm
Bedroom 3	Suspended Concrete Slab 150mm	13.10	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Carpet 10mm
Bathroom	Suspended Concrete Slab 150mm	4.80	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Ceramic Tiles 8mm
Bedroom 2	Suspended Concrete Slab 150mm	11.30	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Carpet 10mm
Bedroom 1	Suspended Concrete Slab 150mm	18.20	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Carpet 10mm
Ensuite	Suspended Concrete Slab 150mm	6.60	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Ceramic Tiles 8mm
WC	Suspended Concrete Slab 150mm	2.70	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Ceramic Tiles 8mm
Corridor	Suspended Concrete Slab 150mm	17.90	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Cork Tiles or Parquetry 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom 3	Concrete, Plasterboard	No insulation	No
Bathroom	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No
Ensuite	Concrete, Plasterboard	No insulation	No
WC	Concrete, Plasterboard	No insulation	No
Corridor	Concrete, Plasterboard	No insulation	No

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Bedroom 3	4	Downlights - LED	150	Sealed
Bathroom	2	Downlights - LED	150	Sealed
Bathroom	1	Exhaust Fans	300	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Bedroom 1	5	Downlights - LED	150	Sealed
Ensuite	2	Downlights - LED	150	Sealed
Ensuite	1	Exhaust Fans	300	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
Corridor	5	Downlights - LED	150	Sealed

## Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

## Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None Present			



## 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

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

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

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

## Glossary

<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>Assessed floor area</b>	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
<b>Ceiling penetrations</b>	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
<b>Conditioned</b>	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>Entrance door</b>	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
<b>Exposure category – exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category – open</b>	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m; farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
<b>Exposure category – suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category – protected</b>	terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<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</b> (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<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. 0006397012-01

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### Property

**Address** Unit 2, 30 Fairlight Street, Fairlight, NSW, 2094  
**Lot/DP** 50/705739  
**NCC Class\*** 2  
**Type** New Dwelling

### Plans

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**Prepared by** DKO Architecture

### Construction and environment

Assessed floor area (m <sup>2</sup> )*	Exposure Type
Conditioned* 134.0	Suburban
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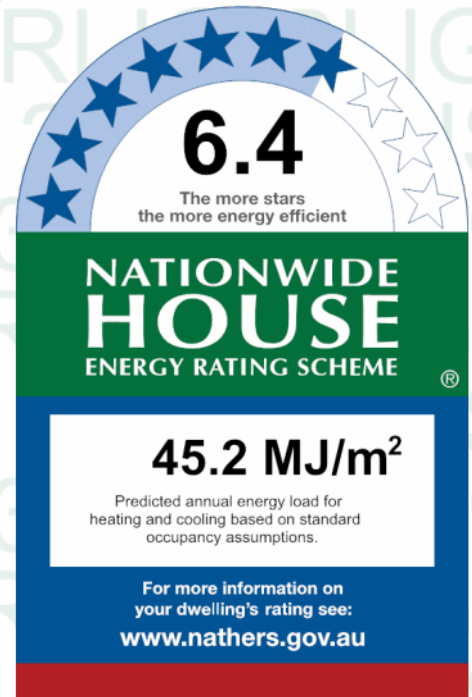
**Name** Zoltan Lipovski  
**Business name** EcoMode Design  
**Email** zoltan@ecomode.com.au  
**Phone** 0410605614  
**Accreditation No.** 20884  
**Assessor Accrediting Organisation** ABSA  
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### Thermal performance

Heating	Cooling
<b>20.6</b> MJ/m <sup>2</sup>	<b>24.6</b> MJ/m <sup>2</sup>

### About the rating

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### Verification

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### Ceiling penetrations\*

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### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

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

### Exposure\*

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

### Provisional\* values

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

## Additional notes

I have modeled the shading in accordance with NatHERS principles

## Window and glazed door *type and performance*

### Default\* windows

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

### Custom\* windows

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

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2700	3600	n/a	66	S	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2100	1700	n/a	95	E	No
Kitchen/Living	ALM-001-01 A	n/a	2100	1700	n/a	95	E	No
Kitchen/Living	ALM-001-01 A	n/a	2100	1700	n/a	95	E	No
Kitchen/Living	ALM-002-01 A	n/a	600	1700	n/a	00	E	No
Kitchen/Living	ALM-002-01 A	n/a	600	1700	n/a	00	E	No
Kitchen/Living	ALM-002-01 A	n/a	600	1700	n/a	00	E	No
Bedroom 3	ALM-002-01 A	n/a	2700	700	n/a	10	S	No
Bedroom 2	ALM-002-01 A	n/a	2700	700	n/a	10	N	No
Ensuite	ALM-001-01 A	n/a	800	1000	n/a	10	E	No
Bedroom 1	ALM-001-01 A	n/a	2700	3599	n/a	66	N	No
Bedroom 1	ALM-002-01 A	n/a	2550	900	n/a	10	E	No

## Roof window type and performance

### Default\* roof windows

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

### Custom\* roof windows

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

## Roof window schedule

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

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

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

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Tilt up concrete, lined	0.30	Light	Anti-glare foil with bulk no gap R2.5	No
EW-2	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	3640	S	3304	NO
Kitchen/Living	EW-1	2700	671	W	0	YES
Kitchen/Living	EW-1	2700	583	SW	0	YES
Kitchen/Living	EW-1	2700	14295	E	0	NO
Bedroom 3	EW-1	2700	3895	E	0	NO
Bedroom 3	EW-1	2700	1044	S	364	YES
Bedroom 2	EW-1	2700	1100	N	400	YES
Bedroom 2	EW-1	2700	1304	E	0	YES
Bedroom 2	EW-1	2700	2795	E	0	YES
Bath	EW-1	2700	1690	E	0	NO
Ensuite	EW-1	2700	3890	E	0	YES
Bedroom 1	EW-1	2700	781	NW	0	YES
Bedroom 1	EW-1	2700	825	W	0	YES
Bedroom 1	EW-1	2700	3600	N	2000	NO
Bedroom 1	EW-1	2700	3595	E	0	NO

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1	AAC, plaster on studs	88.00	No insulation one side, Bulk Insulation the other R2.5
IW-2	Cavity wall, direct fix plasterboard, single gap	92.00	No insulation

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Suspended Concrete Slab 150mm	57.60	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Cork Tiles or Parquetry 8mm



Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 3	Suspended Concrete Slab 150mm	12.40	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Carpet 10mm
Bedroom 2	Suspended Concrete Slab 150mm	12.10	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Carpet 10mm
Bath	Suspended Concrete Slab 150mm	4.90	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Ceramic Tiles 8mm
Corridor	Suspended Concrete Slab 150mm	18.00	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Cork Tiles or Parquetry 8mm
Ensuite	Suspended Concrete Slab 150mm	7.80	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Ceramic Tiles 8mm
Bedroom 1	Suspended Concrete Slab 150mm	18.80	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Carpet 10mm
WC	Suspended Concrete Slab 150mm	2.70	Enclosed	Foil Sided Bulk in Contact with Floor, Reflective Down R2	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Bedroom 3	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Bedroom 2	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Bath	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Corridor	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Ensuite	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Bedroom 1	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
WC	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Kitchen/Living	8	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Corridor	5	Downlights - LED	150	Sealed
Bedroom 1	5	Downlights - LED	150	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		





Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None Present			

## Explanatory notes

### About this report

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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.

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## Glossary

<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>Assessed floor area</b>	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
<b>Ceiling penetrations</b>	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
<b>Conditioned</b>	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>Entrance door</b>	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
<b>Exposure category – exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category – open</b>	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m; farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
<b>Exposure category – suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category – protected</b>	terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<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</b> (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<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. 0006397020-01

Generated on 27 Jun 2022 using BERS Pro v4.4.1.5 (3.21)

### Property

**Address** Unit 3, 30 Fairlight Street, Fairlight, NSW, 2094  
**Lot/DP** 50/705739  
**NCC Class\*** 2  
**Type** New Dwelling

### Plans

**Main Plan** Project 12781 - Plans, Elevations Sections

**Prepared by** DKO Architecture

### Construction and environment

Assessed floor area (m <sup>2</sup> )*	Exposure Type
Conditioned* 139.0	Suburban
Unconditioned* 0.0	<b>NatHERS climate zone</b>
Total 139.0	56
Garage 0.0	



### Accredited assessor

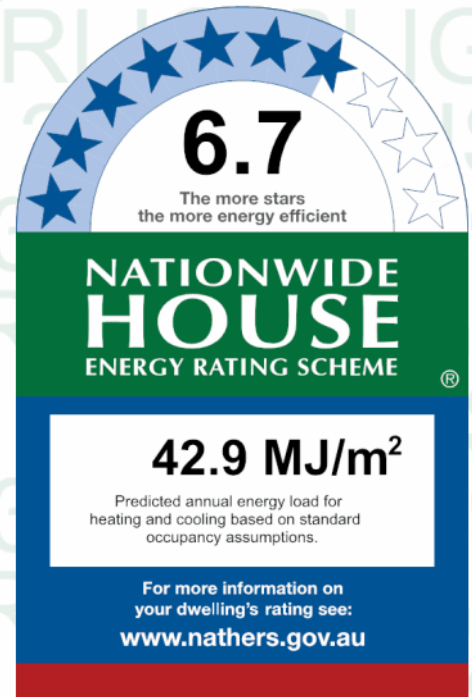
**Name** Zoltan Lipovski  
**Business name** EcoMode Design  
**Email** zoltan@ecomode.com.au  
**Phone** 0410605614  
**Accreditation No.** 20884  
**Assessor Accrediting Organisation** ABSA  
**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

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

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

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



### Thermal performance

Heating	Cooling
<b>18.4</b> MJ/m <sup>2</sup>	<b>24.4</b> MJ/m <sup>2</sup>

### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit [hstar.com.au/QR/Generate?p=XEFrDfOEe](http://hstar.com.au/QR/Generate?p=XEFrDfOEe).

When using either link, ensure you are visiting [hstar.com.au](http://hstar.com.au)



## Certificate check

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

### Genuine certificate

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

### Ceiling penetrations\*

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

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

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

### Exposure\*

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

### Provisional\* values

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

## Additional notes

I have modeled the shading in accordance with NatHERS principles

## Window and glazed door *type and performance*

### Default\* windows

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

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit

No Data Available

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2700	4200	n/a	70	S	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	1200	1700	n/a	10	W	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1700	n/a	10	W	No
Kitchen/Living	ALM-002-01 A	n/a	1300	2000	n/a	00	W	No
Bedroom 3	ALM-002-01 A	n/a	2700	700	n/a	10	S	No
Bedroom 2	ALM-002-01 A	n/a	2700	700	n/a	10	N	No
Bedroom 1	ALM-001-01 A	n/a	1400	900	n/a	00	W	No
Bedroom 1	ALM-001-01 A	n/a	2700	3599	n/a	66	N	No
Ensuite	ALM-001-01 A	n/a	800	1000	n/a	10	W	No

## Roof window type and performance

### Default\* roof windows

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

### Custom\* roof windows

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

## Roof window schedule

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

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

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

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Tilt up concrete, lined	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-2	Tilt up concrete, lined	0.30	Light	Anti-glare foil with bulk no gap R2.5	No
EW-3	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	583	SE	0	YES
Kitchen/Living	EW-1	2700	447	SE	0	YES
Kitchen/Living	EW-1	2700	4200	S	2900	NO
Kitchen/Living	EW-2	2700	5800	W	0	NO
Kitchen/Living	EW-2	2700	4441	W	0	YES
Kitchen/Living	EW-2	2700	5095	W	0	YES
Bedroom 3	EW-2	2700	1100	S	400	YES
Bedroom 3	EW-2	2700	1105	W	25	YES
Bedroom 3	EW-2	2700	2995	W	0	YES
Bathroom	EW-2	2700	1790	W	0	NO
Bedroom 2	EW-2	2700	2795	W	0	YES
Bedroom 2	EW-2	2700	1204	W	25	YES
Bedroom 2	EW-2	2700	1000	N	300	YES
Bedroom 1	EW-2	2700	3695	W	0	NO
Bedroom 1	EW-2	2700	3800	N	2000	NO
Bedroom 1	EW-2	2700	700	E	0	YES
Bedroom 1	EW-2	2700	849	NE	0	YES
Ensuite	EW-2	2700	3790	W	0	YES

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1	Cavity wall, direct fix plasterboard, single gap	90.00	No insulation
IW-2	AAC, multi plaster layers on studs	89.00	No insulation one side, Bulk Insulation the other R2.5

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 150mm	64.30	None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 3	Concrete Slab, Unit Below 150mm	11.90	None	No Insulation	Carpet 10mm



Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	Concrete Slab, Unit Below 150mm	5.00	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	11.40	None	No Insulation	Carpet 10mm
Bedroom 1	Concrete Slab, Unit Below 150mm	18.90	None	No Insulation	Carpet 10mm
Ensuite	Concrete Slab, Unit Below 150mm	7.60	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab, Unit Below 150mm	2.70	None	No Insulation	Ceramic Tiles 8mm
Corridor	Concrete Slab, Unit Below 150mm	17.50	None	No Insulation	Cork Tiles or Parquetry 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom 3	Concrete, Plasterboard	No insulation	No
Bathroom	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No
Ensuite	Concrete, Plasterboard	No insulation	No
WC	Concrete, Plasterboard	No insulation	No
Corridor	Concrete, Plasterboard	No insulation	No

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Bedroom 3	4	Downlights - LED	150	Sealed
Bathroom	2	Downlights - LED	150	Sealed
Bathroom	1	Exhaust Fans	300	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Bedroom 1	5	Downlights - LED	150	Sealed
Ensuite	2	Downlights - LED	150	Sealed
Ensuite	1	Exhaust Fans	300	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
Corridor	5	Downlights - LED	150	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

## Roof type

**Construction****Added insulation (R-value)****Solar absorptance****Roof shade**

None Present

## Explanatory notes

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<b>Conditioned</b>	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>Entrance door</b>	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
<b>Exposure category – exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category – open</b>	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m; farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
<b>Exposure category – suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category – protected</b>	terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<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</b> (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<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. 0006397038-01

Generated on 27 Jun 2022 using BERS Pro v4.4.1.5 (3.21)

### Property

**Address** Unit 4, 30 Fairlight Street, Fairlight, NSW, 2094  
**Lot/DP** 50/705739  
**NCC Class\*** 2  
**Type** New Dwelling

### Plans

**Main Plan** Project 12781 - Plans, Elevations Sections

**Prepared by** DKO Architecture

### Construction and environment

Assessed floor area (m <sup>2</sup> )*	Exposure Type
Conditioned* 136.0	Suburban
Unconditioned* 0.0	<b>NatHERS climate zone</b>
Total 136.0	56
Garage 0.0	



### Accredited assessor

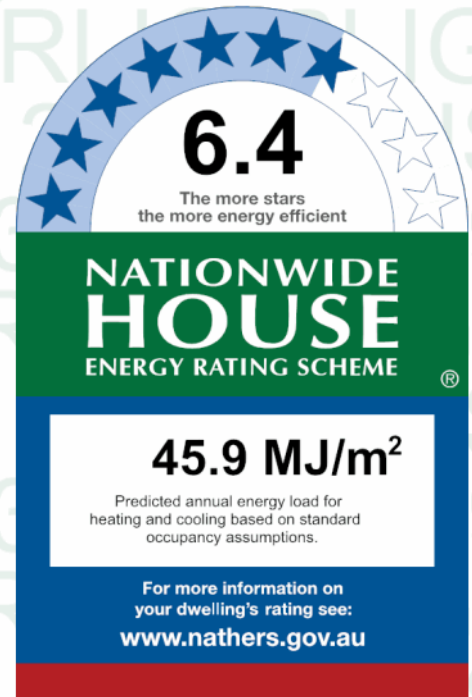
**Name** Zoltan Lipovski  
**Business name** EcoMode Design  
**Email** zoltan@ecomode.com.au  
**Phone** 0410605614  
**Accreditation No.** 20884  
**Assessor Accrediting Organisation** ABSA  
**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

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

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

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



### Thermal performance

Heating	Cooling
<b>18.5</b> MJ/m <sup>2</sup>	<b>27.4</b> MJ/m <sup>2</sup>

### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit [hstar.com.au/QR/Generate?p=mdSONnyeC](http://hstar.com.au/QR/Generate?p=mdSONnyeC).

When using either link, ensure you are visiting [hstar.com.au](http://hstar.com.au)



## Certificate check

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

### Genuine certificate

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

### Ceiling penetrations\*

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

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

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

### Exposure\*

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

### Provisional\* values

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

## Additional notes

I have modeled the shading in accordance with NatHERS principles

## Window and glazed door *type and performance*

### Default\* windows

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

### Custom\* windows

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

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2700	3600	n/a	70	S	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	1600	1500	n/a	00	E	No
Kitchen/Living	ALM-001-01 A	n/a	1600	1500	n/a	10	E	No
Kitchen/Living	ALM-002-01 A	n/a	2350	1700	n/a	00	E	No
Kitchen/Living	ALM-001-01 A	n/a	1600	1500	n/a	10	E	No
Bedroom 3	ALM-002-01 A	n/a	2700	700	n/a	10	S	No
Bedroom 2	ALM-002-01 A	n/a	2700	700	n/a	15	N	No
Ensuite	ALM-002-01 A	n/a	1000	1000	n/a	10	E	No
Bedroom 1	ALM-001-01 A	n/a	2700	3200	n/a	66	N	No
Bedroom 1	ALM-002-01 A	n/a	1550	900	n/a	10	E	No

## Roof window type and performance

### Default\* roof windows

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

### Custom\* roof windows

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

## Roof window schedule

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

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

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

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
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Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Tilt up concrete, lined	0.30	Light	Anti-glare foil with bulk no gap R2.5	No
EW-2	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	3640	S	3237	NO
Kitchen/Living	EW-1	2700	762	W	0	YES
Kitchen/Living	EW-1	2700	671	SW	0	YES
Kitchen/Living	EW-1	2700	14395	E	0	NO
Bedroom 3	EW-1	2700	3895	E	0	NO
Bedroom 3	EW-1	2700	1044	S	364	YES
Bedroom 2	EW-1	2700	1100	N	400	YES
Bedroom 2	EW-1	2700	1304	E	0	YES
Bedroom 2	EW-1	2700	2795	E	0	YES
Bath	EW-1	2700	1690	E	0	NO
Ensuite	EW-1	2700	3890	E	0	YES
Bedroom 1	EW-1	2700	781	NW	0	YES
Bedroom 1	EW-1	2700	825	W	0	YES
Bedroom 1	EW-1	2700	3600	N	1900	NO
Bedroom 1	EW-1	2700	3595	E	0	NO

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1	AAC, plaster on studs	88.00	No insulation one side, Bulk Insulation the other R2.5
IW-2	Cavity wall, direct fix plasterboard, single gap	92.00	No insulation
IW-3	Cavity Brick, multi plaster layers	0.00	No Insulation

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 150mm	59.50	None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 3	Concrete Slab, Unit Below 150mm	12.40	None	No Insulation	Carpet 10mm

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Bedroom 2	Concrete Slab, Unit Below 150mm	12.10	None	No Insulation	Carpet 10mm
Bath	Concrete Slab, Unit Below 150mm	4.90	None	No Insulation	Ceramic Tiles 8mm
Corridor	Concrete Slab, Unit Below 150mm	17.60	None	No Insulation	Cork Tiles or Parquetry 8mm
Ensuite	Concrete Slab, Unit Below 150mm	7.80	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 150mm	18.50	None	No Insulation	Carpet 10mm
WC	Concrete Slab, Unit Below 150mm	2.70	None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bedroom 3	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No
Corridor	Concrete, Plasterboard	No insulation	No
Ensuite	Concrete, Plasterboard	No insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No
WC	Concrete, Plasterboard	No insulation	No

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Kitchen/Living	8	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Corridor	5	Downlights - LED	150	Sealed
Bedroom 1	5	Downlights - LED	150	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		



Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
None Present			

## 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.
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<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</b> (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<b>U-value</b>	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
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# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. 0008811366-01

Generated on 03 Aug 2023 using BERS Pro v4.4.1.5d (3.21)

### Property

**Address** Unit 5, 30 Fairlight Street , Fairlight , NSW , 2094  
**Lot/DP** 50/705739  
**NCC Class\*** 2  
**Type** New Dwelling

### Plans

**Main plan** Project 12781 - Plans, Elevations Sections  
**Prepared by** DKO Architecture

### Construction and environment

<b>Assessed floor area (m<sup>2</sup>)*</b>	<b>Exposure type</b>
Conditioned* 178.0	Suburban
Unconditioned* 0.0	<b>NatHERS climate zone</b>
Total 178.0	56
Garage 0.0	



### Accredited assessor

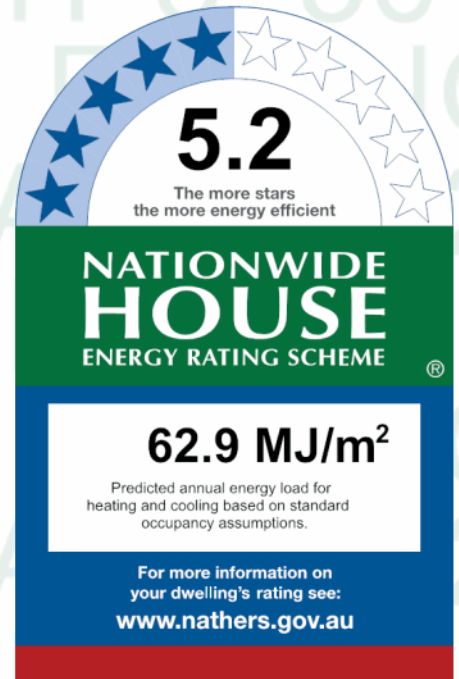
**Name** Zoltan Lipovski  
**Business name** EcoMode Design  
**Email** zoltan@ecomode.com.au  
**Phone** 0410605614  
**Accreditation No.** 20884  
**Assessor Accrediting Organisation** ABSA  
**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

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

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



### Thermal performance

<b>Heating</b>	<b>Cooling</b>
<b>40.0</b>	<b>22.9</b>
<b>MJ/m<sup>2</sup></b>	<b>MJ/m<sup>2</sup></b>

### 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 [www.hstar.com.au/QR/Generate?p=sQntJrcZh](http://www.hstar.com.au/QR/Generate?p=sQntJrcZh). When using either link, ensure you are visiting [www.hstar.com.au](http://www.hstar.com.au)



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### Ceiling penetrations\*

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

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### Apartment entrance doors

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

### Exposure\*

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

### Provisional\* values

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

## Additional notes

I have modeled the shading in accordance with NatHERS principles

## Window and glazed door type and performance

### Default\* windows

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

### Custom\* windows

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

## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
----------	-----------	------------	-------------	------------	-------------	-----------	-------------	------------------------



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	1400	1200	n/a	10	E	No
Kitchen/Living	ALM-001-01 A	n/a	1400	1200	n/a	10	E	No
Kitchen/Living	ALM-001-01 A	n/a	1400	1200	n/a	10	E	No
Kitchen/Living	ALM-002-01 A	n/a	2840	6720	n/a	80	S	No
Kitchen/Living	ALM-002-01 A	n/a	1500	3000	n/a	00	W	No
Kitchen/Living	ALM-001-01 A	n/a	1350	1200	n/a	10	W	No
Kitchen/Living	ALM-001-01 A	n/a	1350	1200	n/a	10	W	No
Kitchen/Living	ALM-002-01 A	n/a	2700	750	n/a	45	N	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1200	n/a	95	N	No
Living	ALM-002-01 A	n/a	1200	2000	n/a	45	S	No
Corridor	ALM-001-01 A	n/a	2100	1200	n/a	10	E	No
Corridor	ALM-001-01 A	n/a	1400	1200	n/a	10	E	No
Master	ALM-001-01 A	n/a	2550	2600	n/a	50	N	Yes
Master	ALM-001-01 A	n/a	2100	1200	n/a	10	E	No
Bedroom 2	ALM-001-01 A	n/a	1200	1500	n/a	10	W	No
Ensuite	ALM-001-01 A	n/a	1350	1300	n/a	10	N	No
Bedroom 3	ALM-001-01 A	n/a	1200	2600	n/a	10	W	No

## Roof window type and performance

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
DG-Generic-02 A	Glass	4.2	0.72	0.68	0.76

### Custom\* roof windows

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

## Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
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Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
Kitchen/Living	DG-Generic-02 A	n/a	0	500	1200	E	No	No
Corridor	DG-Generic-02 A	n/a	0	500	1200	E	No	No
Ensuite	DG-Generic-02 A	n/a	0	300	1200	E	No	No

## Skylight type and performance

Skylight ID	Skylight description
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No Data Available

## Skylight schedule

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

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Tilt up concrete, lined	0.30	Light	Anti-glare foil with bulk no gap R2.5	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	3000	11895	E	0	NO
Kitchen/Living	EW-1	3000	8100	S	1400	NO
Kitchen/Living	EW-1	3000	11200	W	0	NO

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	3000	1900	N	2800	YES
Kitchen/Living	EW-1	3000	2795	W	0	YES
Living	EW-1	3000	2100	S	2800	YES
Living	EW-1	3000	3700	W	0	NO
Living	EW-1	3000	600	N	0	YES
Corridor	EW-1	3000	10190	E	0	NO
Master	EW-1	3000	4195	N	0	NO
Master	EW-1	3000	5095	E	0	NO
Bedroom 2	EW-1	3000	3190	W	0	YES
Ensuite	EW-1	3000	2395	W	0	NO
Ensuite	EW-1	3000	3495	N	0	NO
Bedroom 3	EW-1	3000	3890	W	0	NO

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		116.00	No insulation
IW-2 - AAC, multi plaster layers on studs		86.00	No insulation one side, Bulk Insulation the other R2.5

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 150mm	80.70	None	No Insulation	Cork Tiles or Parquetry 8mm
Living	Concrete Slab, Unit Below 150mm	11.30	None	No Insulation	Carpet 10mm
Corridor	Concrete Slab, Unit Below 150mm	17.90	None	No Insulation	Cork Tiles or Parquetry 8mm
Master	Concrete Slab, Unit Below 150mm	21.00	None	No Insulation	Carpet 10mm
Bedroom 2	Concrete Slab, Unit Below 150mm	15.80	None	No Insulation	Carpet 10mm
Bath	Concrete Slab, Unit Below 150mm	4.80	None	No Insulation	Ceramic Tiles 8mm
Ensuite	Concrete Slab, Unit Below 150mm	8.10	None	No Insulation	Ceramic Tiles 8mm
Bedroom 3	Concrete Slab, Unit Below 150mm	15.50	None	No Insulation	Carpet 10mm

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
WC	Concrete Slab, Unit Below 150mm	3.00	None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Living	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Corridor	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Master	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Bedroom 2	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Bath	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Ensuite	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
Bedroom 3	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes
WC	Concrete, Plasterboard	Foil reflective both sides of the Bulk Insulation R2	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	10	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Living	4	Downlights - LED	150	Sealed
Corridor	3	Downlights - LED	150	Sealed
Master	4	Downlights - LED	150	Sealed
Bedroom 2	2	Downlights - LED	150	Sealed
Bath	1	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Ensuite	1	Downlights - LED	150	Sealed
Ensuite	1	Exhaust Fans	300	Sealed
Bedroom 3	2	Downlights - LED	150	Sealed
WC	1	Downlights - LED	150	Sealed

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
WC	1	Exhaust Fans	300	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Waterproofing Membrane	No Insulation, Only an Air Gap	0.50	Medium

## Explanatory notes

### About this report

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

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

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

### Accredited assessors

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

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

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

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

### Disclaimer

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

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

Information presented in this report relies on a range of standard assumptions (both embedded in 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 operability 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</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<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</b> (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<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).