### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975264

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

**Property** 

**Address** Unit 1, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

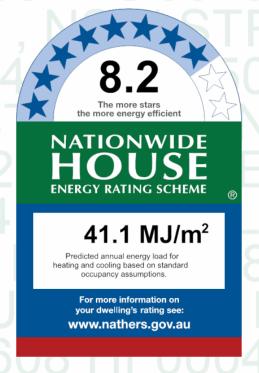
**Plans** 

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor area (m <sup>2</sup> )*		Exposure Type		
Conditioned*	99.0	Suburban		
Unconditioned*	0.0	NatHERS climate zone		
Total	99.0	28		
Garage	0.0			



### Thermal performance

Heating Cooling 22.3 18.8  $MJ/m^2$ 



Name David Howard

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

**ABSA** 

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=kLxuFRIFn.

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

#### **National Construction Code (NCC) requirements**

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WITIGOW ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Documented on 182 Jul 2020 using BERS Pro v4.4.0.1 (3.21) for Unit 1, 608 High Street , Penrith , NSW , 2750

Version: 1, Version Date: 11/08/2020



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Ensuite	ALM-004-01 A	n/a	860	850	n/a	20	NE	No
Bedroom 2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	2700	n/a	45	NW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1800	n/a	45	SW	No

### Roof window type and performance

Default\* roof windows

Window ID

Window Description

Waximum U-value\*

SHGC\*

Substitution tolerance ranges

SHGC lower limit SHGC upper limit

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 Window Opening Height Width Orientation Outdoor Indoor I

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

Location Skylight Skylight Skylight Shaft length (m²) Orientation Shade Diffuser Skylight shaft reflectance

No Data Available

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	SE

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Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2400	1200	90	SW

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3995	NW	0	NO
Bedroom 1	EW-1	2700	3295	SW	0	NO
Ensuite	EW-1	2700	3095	NW	0	NO
Ensuite	EW-1	2700	1000	NE	3000	YES
Bedroom 2	EW-1	2700	3100	SE	3900	YES
Bedroom 2	EW-1	2700	3295	SW	0	NO
Kitchen/Living	EW-1	2700	2995	NW	0	YES
Kitchen/Living	EW-1	2700	1000	SW	3000	YES
Kitchen/Living	EW-1	2700	3800	NW	0	NO
Kitchen/Living	EW-1	2700	6400	NE	2600	NO
Kitchen/Living	EW-1	2700	2490	SW	0	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		30.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 300mm	14.20 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Ensuite	Concrete Slab, Unit Below 300mm	3.90 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 300mm	3.90 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Laundry	Concrete Slab, Unit Below 300mm	1.80 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 300mm	11.50 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 300mm	63.90 None	Bulk Insulation in Contact with Floor R1.5	80/20 Carpet 10mm/Ceramic

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## Ceiling type

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

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

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### **Explanatory notes**

#### About this report

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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.

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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.

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### **Glossary**

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

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Version: 1, Version Date: 11/08/2020

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975272

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

**Property** 

**Address** Unit 2, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

**Plans** 

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	52.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	52.0	28
Garage	0.0	



Name David Howard

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

**ABSA** 

**Declaration of interest** The Assessor has provided design

advice to the Applicant



### Thermal performance

Heating Cooling 16.4 12.2  $MJ/m^2$ 

#### About the rating

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

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#### **National Construction Code (NCC) requirements**

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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?

#### 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

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

#### Custom\* windows

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

Documerated on 182. 1912 200 using BERS Pro v4.4.0.1 (3.21) for Unit 2, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

### Roof window type and performance

Default\* roof windows

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

No Data Available

Custom\* roof windows

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

No Data Available

### Roof window schedule

Window Window Opening Height Width **Outdoor** Indoor Location Orientation (mm) (mm) shade shade

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

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

#### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	SE
Glazed Common A	2400	1200	90	SW

Documerated on M2. 1912489 high BERS Pro v4.4.0.1 (3.21) for Unit 2, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



## 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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3295	NE	2900	NO
Laundry	EW-2	2700	1490	SE	15300	YES
Kitchen/Living	EW-1	2700	4095	NE	2900	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		31.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilatio	Added insulation n (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 300mm	12.60 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 300mm	1.10 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 300mm	3.50 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Kitchen/Livin	Concrete Slab, Unit Below 300mm	34.50 None	Bulk Insulation in Contact with Floor R1.5	80/20 Carpet 10mm/Ceramic

## Ceiling type

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

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

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## **Ceiling** fans

Location Quantity Diameter (mm)

No Data Available

## Roof type

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

None Present

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A	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
Assessed floor area	design documents.
Calling a caraturations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
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Cotuana da an	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
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	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Llevinental abadina facture	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for Nath-S 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
ROOI WIIIGOW	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar host gain coefficient (SLICC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for Nath-S this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

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Version: 1, Version Date: 11/08/2020

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975314

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

**Property** 

**Address** Unit 3, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

**Plans** 

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	ea (m²)*	Exposure Type
Conditioned*	51.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	51.0	28
Garage	0.0	



Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

**ABSA** 

**Declaration of interest** The Assessor has provided design

advice to the Applicant



### Thermal performance

Heating Cooling 20.4  $MJ/m^2$ 

#### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate?

p=AaRFPqLfB.

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

#### **National Construction Code (NCC) requirements**

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

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

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



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WITHOUW ID	Description	U-value*	эпос	SHGC lower limit	SHGC upper limit	
No Data Availal	ble					

Documerated on 182. 1912 200 using BERS Pro v4.4.0.1 (3.21) for Unit 3, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

### Roof window type and performance

Default\* roof windows

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

No Data Available

Custom\* roof windows

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

No Data Available

### Roof window schedule

Window Window Opening Height Width **Outdoor** Indoor Location Orientation (mm) (mm) shade shade

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

**Skylight** Skylight **Skylight Outdoor** Skylight shaft **A**rea Location shaft length Orientation Diffuser No. (m<sup>2</sup>)shade reflectance (mm)

No Data Available

### External door schedule

Location Height (mm) Width (mm) Opening % Orientation

No Data Available

Version: 1, Version Date: 11/08/2020

### 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	Bulk Insulation R1.5	No

\* Refer to glossary

Documerated on M2. Jul 2020 using BERS Pro v4.4.0.1 (3.21) for Unit 3, 608 High Street , Penrith , NSW , 2750

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Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3295	NE	2800	NO
Bedroom 1	EW-2	2700	1300	SW	9600	YES
Kitchen/Living	EW-1	2700	4095	NE	2800	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
W-1 - Concrete Panel/Blocks filled, plasterboard		41.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		31.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilatio	Added insulation n (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 300mm	12.60 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 300mm	1.10 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 300mm	3.60 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Kitchen/Livin	Concrete Slab, Unit Below 300mm	34.00 None	Bulk Insulation in Contact with Floor R1.5	80/20 Carpet 10mm/Ceramic

## Ceiling type

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

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed	
Kitchen/Living	1	Exhaust Fans	300	Sealed	

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## **Ceiling** fans

Location Quantity Diameter (mm) No Data Available

## Roof type

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

None Present

Page 5 of 6



### **Explanatory notes**

#### About this report

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

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

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

#### **Accredited assessors**

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

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

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

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

#### **Disclaimer**

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

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

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

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

### **Glossary**

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

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### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975348-01

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 4, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

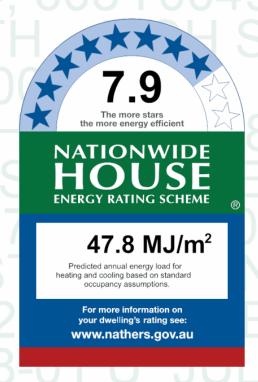
**Plans** 

Main Plan 1410

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor ar	ea (m²)*	Exposure Type
Conditioned*	84.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	84.0	28
Garage	0.0	



## Thermal performance

Heating Cooling 29.5 18.3  $MJ/m^2$ 

# ccredited assessor

Name **David Howard** 

**Business name** Partners Energy Management

Email david@partnersenergy.com.au

Phone 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=JMRdPXgRj.

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

#### **National Construction Code (NCC) requirements**

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum SHGC*		Substitution to	lerance ranges
Williaow ID	Description U-value*		31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

#### Custom\* windows

Window ID	Window	Maximum	SHGC* =		Substitution tolerance ranges		
WITIGOW ID	Description	U-value*	эпос	SHGC lower limit	SHGC upper limit		
No Data Availal	ole						

Documented on 182 Jul 2020 using BERS Pro v4.4.0.1 (3.21) for Unit 4, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Bedroom2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Ensuite Bed 1	ALM-004-01 A	n/a	860	850	n/a	45	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1370	2700	n/a	45	SE	No

### Roof window type and performance

Default\* roof windows

Window ID Window Description Waximum U-value\* SHGC\* Substitution tolerance ranges

SHGC lower limit SHGC upper limit

Custom\* roof windows

Window ID Window Description Maximum U-value\* SHGC\* SHGC lower limit SHGC upper limit

No Data Available

### Roof window schedule

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

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

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

No Data Available

### External door schedule

Location Height (mm) Width (mm) Opening % Orientation

No Data Available

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## 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	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom1	EW-1	2700	4095	SE	0	NO
Bedroom1	EW-1	2700	3295	SW	0	NO
Bedroom2	EW-1	2700	3020	SW	0	YES
Ensuite Bed 1	EW-1	2700	900	NE	9700	YES
Ensuite Bed 1	EW-1	2700	2895	SE	0	NO
Kitchen/Living	EW-1	2700	6400	NE	2700	NO
Kitchen/Living	EW-1	2700	3900	SE	0	NO
Kitchen/Living	EW-1	2700	900	SW	10100	YES
Kitchen/Living	EW-1	2700	3095	SE	900	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		68.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		20.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation n (R-value)	Covering
Bedroom1	Concrete Slab, Unit Below 300mm	14.30 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Bedroom2	Concrete Slab, Unit Below 300mm	9.90 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 300mm	1.80 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 300mm	3.60 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Ensuite Bed 1	Concrete Slab, Unit Below 300mm	3.60 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Hall	Concrete Slab, Unit Below 300mm	2.50 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 300mm	48.20 None	Bulk Insulation in Contact with Floor R1.5	80/20 Carpet 10mm/Ceramic

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom1	Concrete, Plasterboard	No insulation	No

Page 4 of 6

#### 0004975348-01 NatHERS Certificate

#### **7.9 Star Rating** as of 02 Jul 2020



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom2	Concrete, Plasterboard	No insulation	No
Laundry	Concrete, Plasterboard	No insulation	No
Bathroom	Concrete, Plasterboard	No insulation	No
Ensuite Bed 1	Concrete, Plasterboard	No insulation	No
Hall	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **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.

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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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

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

Page 6 of 6

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975371

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

**Property** 

**Address** Unit 5, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

**Plans** 

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	ea (m²)*	Exposure Type
Conditioned*	99.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	99.0	28
Garage	0.0	



Name David Howard

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

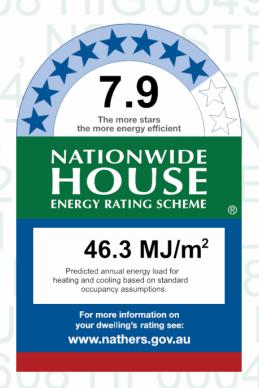
Accreditation No. 20039

**Assessor Accrediting Organisation** 

**ABSA** 

**Declaration of interest** The Assessor has provided design

advice to the Applicant



### Thermal performance

Heating Cooling 23.4 22.9  $MJ/m^2$ 

#### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate?

p=sxrpMsAuu.

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

#### **National Construction Code (NCC) requirements**

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

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

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

Version: 1, Version Date: 11/08/2020



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Documerated on 182. 1912 200 using BERS Pro v4.4.0.1 (3.21) for Unit 5, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Ensuite	ALM-004-01 A	n/a	860	850	n/a	20	NE	No
Bedroom 2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	2700	n/a	45	NW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1800	n/a	45	SW	No

### Roof window type and performance

Default\* roof windows

Window ID

Window Description

Waximum U-value\*

SHGC\*

Substitution tolerance ranges

SHGC lower limit SHGC upper limit

Custom\* roof windows

Window ID Window Description Maximum U-value\* SHGC\* Substitution tolerance ranges

SHGC\* SHGC lower limit SHGC upper limit

No Data Available

### Roof window schedule

Location Window Window Opening Height Width Orientation Outdoor Indoor I

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

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

\_\_\_\_\_

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	SE



Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2400	1200	90	SW

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3995	NW	0	NO
Bedroom 1	EW-1	2700	3295	SW	0	NO
Ensuite	EW-1	2700	3095	NW	0	NO
Ensuite	EW-1	2700	1000	NE	3000	YES
Bedroom 2	EW-1	2700	3100	SE	3900	YES
Bedroom 2	EW-1	2700	3295	SW	0	NO
Kitchen/Living	EW-1	2700	2995	NW	0	YES
Kitchen/Living	EW-1	2700	1000	SW	3000	YES
Kitchen/Living	EW-1	2700	3800	NW	0	NO
Kitchen/Living	EW-1	2700	6400	NE	2600	NO
Kitchen/Living	EW-1	2700	2490	SW	0	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		30.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	14.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite	Concrete Slab, Unit Below 200mm	3.90 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	3.90 None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab, Unit Below 200mm	1.80 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	63.90 None	No Insulation	80/20 Carpet 10mm/Ceramic
·		·	·	

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## Ceiling type

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

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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.

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

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the
Assessed 11001 area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Estance	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
E	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
De of colordon.	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
Roof window	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0.1.1.4.1. (61.100)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Unconditioned	
Unconditioned Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

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### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975405

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

**Property** 

**Address** Unit 6, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

**Plans** 

Main Plan 1410

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	ea (m²)*	Exposure Type		
Conditioned*	52.0	Suburban		
Unconditioned*	0.0	NatHERS climate zone		
Total	52.0	28		
Garage	0.0			



### ccredited assessor

Name David Howard

**Business** name Partners Energy Management

**Email** david@partnersenergy.com.au

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

**ABSA** 

**Declaration of interest** The Assessor has provided design

advice to the Applicant



### Thermal performance

Heating Cooling 16.1 17.6  $MJ/m^2$ 

#### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate?

p=JJbLgQZQh.

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

#### **National Construction Code (NCC) requirements**

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Documerated on 192-1912-1936 sping BERS Pro v4.4.0.1 (3.21) for Unit 6, 608 High Street, Penrith, NSW, 2750 Version: 1, Version Date: 11/08/2020



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

### Roof window type and performance

Default\* roof windows

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

No Data Available

Custom\* roof windows

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

No Data Available

### Roof window schedule

Window Window Opening Height Width **Outdoor** Indoor Location Orientation (mm) (mm) shade shade

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

Skylight Skylight **Skylight Outdoor** Skylight shaft **A**rea Location shaft length Orientation Diffuser (m<sup>2</sup>)shade reflectance No. (mm)

No Data Available

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	SE
Glazed Common A	2400	1200	90	SW

Documerated on M2. 1912489 high BERS Pro v4.4.0.1 (3.21) for Unit 6, 608 High Street , Penrith , NSW , 2750

\* Refer to glossary



## 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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3295	NE	2900	NO
Laundry	EW-2	2700	1490	SE	15300	YES
Kitchen/Living	EW-1	2700	4095	NE	2900	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		31.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	12.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 200mm	1.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	3.50 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.50 None	No Insulation	80/20 Carpet 10mm/Ceramic

## Ceiling type

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

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

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## **Ceiling** fans

Location Quantity Diameter (mm) No Data Available

## Roof type

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

None Present

Page 5 of 6



### **Explanatory notes**

#### About this report

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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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the
Assessed 11001 area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Estuaria de au	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Emanue estamani, ann	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nathers Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for Nath-BS 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
ROOI WIIIGOW	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0-1	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

Page 6 of 6

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975462

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

**Property** 

**Address** Unit 8, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

**Plans** 

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	ea (m²)*	Exposure Type
Conditioned*	95.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	95.0	28
Garage	0.0	



Name David Howard

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

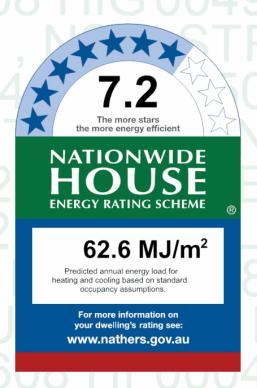
Accreditation No. 20039

**Assessor Accrediting Organisation** 

**ABSA** 

**Declaration of interest** The Assessor has provided design

advice to the Applicant



### Thermal performance

Heating Cooling 18.2  $MJ/m^2$ 

#### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=lexToERYd.

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

#### **National Construction Code (NCC) requirements**

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

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

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



#### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

Window ID	Maximum SUCC*		Window Maximum	SHGC*	Substitution to	lerance ranges
vvindow iD	Description	U-value*	знас	SHGC lower limit SHGC upper		
No Data Availal	ble					

Documerated on 182. 1912 200 using BERS Pro v4.4.0.1 (3.21) for Unit 8, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
IT	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Ensuite Bed 1	ALM-004-01 A	n/a	880	850	n/a	45	SE	Yes
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1570	2700	n/a	45	SE	No
Bedroom 2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	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

Custom\* roof windows

No Data Available

Window ID Window Description Maximum U-value\* SHGC\* SHGC lower limit SHGC upper limit

No Data Available

#### Roof window schedule

Location Window Window Opening Height Width Orientation Outdoor Indoor shade shade

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

Location Skylight Skylight Skylight Shaft length (mm) Skylight Area Orientation Outdoor Shade Diffuser Skylight Shaft reflectance

No Data Available

#### External door schedule

Location Height (mm) Width (mm) Opening % Orientation

No Data Available

Page 3 of 6



# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3995	SE	0	NO
Bedroom 1	EW-1	2700	3195	SW	0	NO
П	EW-1	2700	2620	SW	0	NO
Ensuite Bed 1	EW-1	2700	900	NE	9800	YES
Ensuite Bed 1	EW-1	2700	2995	SE	0	NO
Kitchen/Living	EW-1	2700	6500	NE	2900	NO
Kitchen/Living	EW-1	2700	3900	SE	0	NO
Kitchen/Living	EW-1	2700	900	SW	10000	YES
Kitchen/Living	EW-1	2700	2995	SE	900	YES
Bedroom 2	EW-1	2700	3000	NW	5800	YES
Bedroom 2	EW-1	2700	3095	SW	2475	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		66.00	No insulation
IW-2 - Stone		10.00	No insulation
IW-3 - Concrete Panel/Blocks filled, plasterboard		20.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	13.70 None	No Insulation	Carpet+Rubber Underlay 18mm
ΙΤ	Concrete Slab, Unit Below 200mm	15.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 200mm	3.50 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	4.20 None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab, Unit Below 200mm	1.40 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	46.30 None	No Insulation	80/20 Carpet 10mm/Ceramic
Bedroom 2	Concrete Slab, Unit Below 200mm	10.80 None	No Insulation	Carpet+Rubber Underlay 18mm



# Ceiling type

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

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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.

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Aillidal eller gy load	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
Assessed floor area	design documents.
	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
0 100	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Emerine estadent open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-ERS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHEPS 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
1001 WIIIdow	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar fleat gain coefficient (SHSC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHEPS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

Page 6 of 6

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975488

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

**Property** 

**Address** Unit 9, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

**Plans** 

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	ea (m²)*	Exposure Type
Conditioned*	99.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	99.0	28
Garage	0.0	



Name David Howard

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

**ABSA** 

**Declaration of interest** The Assessor has provided design

advice to the Applicant



### Thermal performance

Heating Cooling 22.9 23.6  $MJ/m^2$ 

#### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=LvMFTwAIA.

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

#### **National Construction Code (NCC) requirements**

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

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

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



#### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
WITIGOW ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

#### Custom\* windows

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

Documerated on 182. 1912 200 using BERS Pro v4.4.0.1 (3.21) for Unit 9, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Ensuite	ALM-004-01 A	n/a	860	850	n/a	20	NE	No
Bedroom 2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	2700	n/a	45	NW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1800	n/a	45	SW	No

### Roof window type and performance

Default\* roof windows

Window ID Window Description Waximum U-value\* SHGC\* Substitution tolerance ranges

No Data Available SHGC lower limit SHGC upper limit

Custom\* roof windows

Window ID Window Maximum SHGC\* Substitution tolerance ranges SHGC SHGC lower limit SHGC upper limit

No Data Available

### Roof window schedule

Location Window Window Opening Height Width Orientation Outdoor Indoor I

No Data Available

# Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

Location Skylight Skylight Skylight Shaft length (m²) Orientation Shade Diffuser Skylight shaft reflectance

No Data Available

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	SE



Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2400	1200	90	SW

# 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	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3995	NW	0	NO
Bedroom 1	EW-1	2700	3295	SW	0	NO
Ensuite	EW-1	2700	3095	NW	0	NO
Ensuite	EW-1	2700	1000	NE	3000	YES
Bedroom 2	EW-1	2700	3100	SE	3900	YES
Bedroom 2	EW-1	2700	3295	SW	0	NO
Kitchen/Living	EW-1	2700	2995	NW	0	YES
Kitchen/Living	EW-1	2700	1000	SW	3000	YES
Kitchen/Living	EW-1	2700	3800	NW	0	NO
Kitchen/Living	EW-1	2700	6400	NE	2600	NO
Kitchen/Living	EW-1	2700	2490	SW	0	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		30.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilatio	7 41010 01 1110 0110111	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	14.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite	Concrete Slab, Unit Below 200mm	3.90 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	3.90 None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab, Unit Below 200mm	1.80 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	63.90 None	No Insulation	80/20 Carpet 10mm/Ceramic

Page 4 of 6



# Ceiling type

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

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

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

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### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975520

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 10, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

#### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	52.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	52.0	28
Garage	0.0	



### Thermal performance

Heating Cooling 16.5  $MJ/m^2$ 



Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=ZJAfOZIFU.

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

#### National Construction Code (NCC) requirements

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

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

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



#### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Documerated on 13. 1912(128) sping BERS Pro v4.4.0.1 (3.21) for Unit 10, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

### Roof window type and performance

Default\* roof windows

Window ID Window Description Waximum 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 Window Opening Height Width Orientation Outdoor Indoor shade shade

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

Location Skylight Skylight Shaft length (mm) Skylight Shaft length (m²) Orientation Shade Diffuser Skylight Shaft reflectance

No Data Available

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
Glazed Common A	2040	820	90	SE	
Glazed Common A	2400	1200	90	SW	



# 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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3295	NE	2900	NO
Laundry	EW-2	2700	1490	SE	15300	YES
Kitchen/Living	EW-1	2700	4095	NE	2900	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		31.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	12.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 200mm	1.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	3.50 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.50 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

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

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

Page 4 of 6



# **Ceiling** fans

Location Quantity Diameter (mm)

No Data Available

# Roof type

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

None Present

Page 5 of 6



### **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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Assessed floor area	design documents.							
Calling a caraturations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes							
Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.							
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Conditioned	will include garages.							
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Cotuana da an	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor							
Entrance door	in a Class 2 building.							
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).							
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered							
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).							
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.							
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.							
Llevinental abadina facture	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper							
Horizontal shading feature	levels.							
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(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.							
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.							
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional							
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at							
	www.nathers.gov.au							
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.							
Roof window	for Nath-S 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							
ROOI WIIIGOW	generally does not have a diffuser.							
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.							
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.							
Solar host gain coefficient (SLICC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released							
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.							
Skylight (also known as roof lights)	for Nath-S this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.							
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.							
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.							
	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy							
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy							

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### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975561

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 11, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

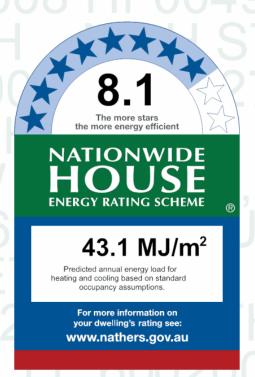
#### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type			
Conditioned*	51.0	Suburban		
Unconditioned*	0.0	NatHERS climate zone		
Total	51.0	28		
Garage	0.0			



### Thermal performance

Heating Cooling 21.9

# Accredited assessor

Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=SAQSDRHkp.

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

#### National Construction Code (NCC) requirements

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

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



#### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Documented on 1921, 1924, 1924, 1939



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

### Roof window type and performance

Default\* roof windows

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

No Data Available

Custom\* roof windows

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

No Data Available

### Roof window schedule

Window Window Opening Height Width **Outdoor** Indoor Location Orientation (mm) (mm) shade shade

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

**Skylight** Skylight **Skylight Outdoor** Skylight shaft **A**rea Location shaft length Orientation Diffuser No. (m<sup>2</sup>)shade reflectance (mm)

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	Bulk Insulation R1.5	No

Documerated on 182-1912/030 Injung BERS Pro v4.4.0.1 (3.21) for Unit 11, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020

\* Refer to glossary



Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3295	NE	2800	NO
Bedroom 1	EW-2	2700	1300	SW	9600	YES
Kitchen/Living	EW-1	2700	4095	NE	2800	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		41.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		31.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	12.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 200mm	1.10 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	3.60 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.00 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

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

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed	
Kitchen/Living	1	Exhaust Fans	300	Sealed	

Page 4 of 6



# **Ceiling** fans

Location Quantity Diameter (mm)

No Data Available

# Roof type

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

None Present

Page 5 of 6



### **Explanatory notes**

#### About this report

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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.

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

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

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

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

### **Glossary**

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

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### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975579

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 12, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	ea (m²)*	Exposure Type
Conditioned*	95.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	95.0	28
Garage	0.0	



Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

# The more stars the more energy efficient 62.2 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

# Thermal performance

Heating Cooling 44.2  $MJ/m^2$ 

#### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate?

p=MDwsqgOPG.

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

#### National Construction Code (NCC) requirements

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

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

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



#### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Document of the Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
IT	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Ensuite Bed 1	ALM-004-01 A	n/a	880	850	n/a	45	SE	Yes
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1570	2700	n/a	45	SE	No
Bedroom 2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	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

Custom\* roof windows

No Data Available

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 Window Opening Height Width Orientation Outdoor Indoor shade shade

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

Location Skylight Skylight Skylight Skylight Shaft length (m²) Orientation Skylight Shafe Skylight Skylight Skylight Shaft Skylight Shaft Skylight Shaft Skylight Shafe Skylight Skylight Shaft Skylight Skylight

No Data Available

#### External door schedule

Location Height (mm) Width (mm) Opening % Orientation

No Data Available



# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3995	SE	0	NO
Bedroom 1	EW-1	2700	3195	SW	0	NO
П	EW-1	2700	2620	SW	0	NO
Ensuite Bed 1	EW-1	2700	900	NE	9800	YES
Ensuite Bed 1	EW-1	2700	2995	SE	0	NO
Kitchen/Living	EW-1	2700	6500	NE	2900	NO
Kitchen/Living	EW-1	2700	3900	SE	0	NO
Kitchen/Living	EW-1	2700	900	SW	10000	YES
Kitchen/Living	EW-1	2700	2995	SE	900	YES
Bedroom 2	EW-1	2700	3000	NW	5800	YES
Bedroom 2	EW-1	2700	3095	SW	2475	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		66.00	No insulation
IW-2 - Stone		10.00	No insulation
IW-3 - Concrete Panel/Blocks filled, plasterboard		20.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	13.70 None	No Insulation	Carpet+Rubber Underlay 18mm
ΙΤ	Concrete Slab, Unit Below 200mm	15.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 200mm	3.50 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	4.20 None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab, Unit Below 200mm	1.40 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	46.30 None	No Insulation	80/20 Carpet 10mm/Ceramic
Bedroom 2	Concrete Slab, Unit Below 200mm	10.80 None	No Insulation	Carpet+Rubber Underlay 18mm



# Ceiling type

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

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **Explanatory notes**

#### About this report

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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.

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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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the
Assessed 11001 area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Estance	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
E	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Harden and all a bradles of the advance	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
De of colordon.	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
Roof window	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0.1.1.4.1. (61.100)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Unconditioned	
Unconditioned Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

Page 6 of 6

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975603

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 13, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	ea (m²)*	Exposure Type
Conditioned*	99.0	Open
Unconditioned*	0.0	NatHERS climate zone
Total	99.0	28
Garage	0.0	



### Thermal performance

Heating Cooling 44.0  $MJ/m^2$ 



Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=LqmAKKaRw.

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

#### National Construction Code (NCC) requirements

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

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

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



#### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WITIGOW ID	Description	U-value*		SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	lerance ranges	
	Description	U-value*	энас	SHGC lower limit	SHGC upper limit
No Data Availal	ble				

Document of the Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Ensuite	ALM-004-01 A	n/a	860	850	n/a	20	NE	No
Bedroom 2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	2700	n/a	45	NW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1800	n/a	45	SW	No

### Roof window type and performance

Default\* roof windows

Window ID Window Description Waximum U-value\* SHGC\* Substitution tolerance ranges

No Data Available SHGC lower limit SHGC upper limit

Custom\* roof windows

Window ID Window Description Maximum U-value\* SHGC\* SHGC lower limit SHGC upper limit

No Data Available

#### Roof window schedule

Location Window Window Opening Height Width Orientation Outdoor Indoor I

No Data Available

# Skylight type and performance

Skylight ID Skylight description

No Data Available

# Skylight schedule

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

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	SE

Page 3 of 6



Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2400	1200	90	SW

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3995	NW	0	NO
Bedroom 1	EW-1	2700	3295	SW	0	NO
Ensuite	EW-1	2700	3095	NW	0	NO
Ensuite	EW-1	2700	1000	NE	3000	YES
Bedroom 2	EW-1	2700	3100	SE	3900	YES
Bedroom 2	EW-1	2700	3295	SW	0	NO
Kitchen/Living	EW-1	2700	2995	NW	0	YES
Kitchen/Living	EW-1	2700	1000	SW	3000	YES
Kitchen/Living	EW-1	2700	3800	NW	0	NO
Kitchen/Living	EW-1	2700	6400	NE	2600	NO
Kitchen/Living	EW-1	2700	2490	SW	0	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		30.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	14.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite	Concrete Slab, Unit Below 200mm	3.90 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	3.90 None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab, Unit Below 200mm	1.80 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	63.90 None	No Insulation	80/20 Carpet 10mm/Ceramic

Page 4 of 6



# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Ensuite	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bathroom	Concrete, Plasterboard	Bulk Insulation R1.5	No
Laundry	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom 2	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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

Page 5 of 6



### **Explanatory notes**

#### About this report

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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**

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

### **Glossary**

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

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### Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004976296-01

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

**Property** 

**Address** Unit 14, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

**Plans** 

Main Plan 1410

Prepared by Building Environments Pty Ltd

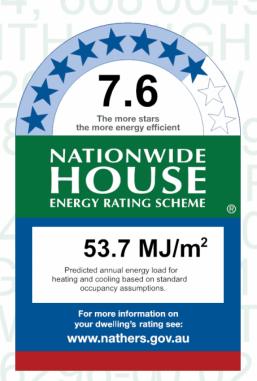
### Construction and environment

Assessed floor area (m2)\* **Exposure Type** 52.0 Conditioned\*

NatHERS climate zone Unconditioned\* 0.0

52.0 Total

0.0 Garage



# Thermal performance

Heating Cooling 35.0  $MJ/m^2$ MJ/m<sup>2</sup>



Name **David Howard** 

**Business** name Partners Energy Management

**Email** david@partnersenergy.com.au

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

**ABSA** 

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=yOoXxuCxr.

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

#### **National Construction Code (NCC) requirements**

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window ID	Description	U-value*	эпос	SHGC lower limit	SHGC upper limit	
No Data Availal	ble					

Documented on 192-1924 He fing BERS Pro v4.4.0.1 (3.21) for Unit 14, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

### Roof window type and performance

Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WITIGOW ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	

No Data Available

Custom\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
VEL-010-02 W	Glass	2.6	0.21	0.20	0.22	

### Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
Kitchen/Living	VEL-010-02 W	n/a	50	1200	1200	NE	No	No

### Skylight type and performance

Skylight ID	Skylight description

No Data Available

# Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²) Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Av	ailable						

### **External door** schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	SE
Glazed Common A	2400	1200	90	SW

Version: 1, Version Date: 11/08/2020



# 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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3295	NE	2900	NO
Laundry	EW-2	2700	1490	SE	15300	YES
Kitchen/Living	EW-1	2700	4095	NE	2900	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		31.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	12.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 200mm	1.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	3.50 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.50 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Laundry	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bathroom	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

Page 4 of 6



# **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

Page 5 of 6



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Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
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Conditioned	will include garages.
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Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Education	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
E	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Harden and all a bradles of the advance	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
De of colordon.	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
Roof window	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0.1.1.4.1. (61.100)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Unconditioned	
Unconditioned Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

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Version: 1, Version Date: 11/08/2020

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004976387

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 15, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor area	ı (m²)*	Exposure Type
Conditioned*	51.0	Open
Unconditioned*	0.0	NatHERS climate zone
Total	51.0	28
Garage	0.0	



# Thermal performance

Heating Cooling 42.8  $MJ/m^2$  $MJ/m^2$ 



Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=QqRarUkrV.

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

#### National Construction Code (NCC) requirements

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINGOWID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Documented on 1921, 1924, 1934, 1934, 1934, 1935



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

# Roof window type and performance

Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WITIGOW ID	Description	U-value*	31100	SHGC lower limit SHG	SHGC upper limit	

No Data Available

Custom\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WIII IGOW ID	Description	U-value*	31130	SHGC lower limit	SHGC upper limit	
VEL-010-02 W	Glass	2.6	0.21	0.20	0.22	

### Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
Kitchen/Living	VEL-010-02 W	n/a	50	1200	1200	NE	No	No

### Skylight type and performance

Skylight ID	Skylight description

No Data Available

# Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²) Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Ava	ailable						

### 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	Bulk Insulation R1.5	No

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Version: 1, Version Date: 11/08/2020



Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3295	NE	2800	NO
Bedroom 1	EW-2	2700	1300	SW	9600	YES
Kitchen/Living	EW-1	2700	4095	NE	2800	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		41.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		31.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	12.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 200mm	1.10 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	3.60 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.00 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Laundry	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bathroom	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed	
Kitchen/Living	1	Exhaust Fans	300	Sealed	

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# **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

Page 5 of 6



### **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.

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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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

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

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Version: 1, Version Date: 11/08/2020

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975256

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 16, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

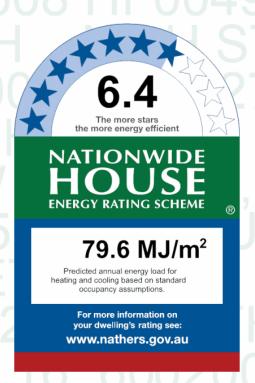
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor area	Exposure Type	
Conditioned*	95.0	Open
Unconditioned*	0.0	NatHERS climate zone
Total	95.0	28
Garage	0.0	



### Thermal performance

Heating Cooling 61.1



Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=wZNWkvxhp.

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

#### National Construction Code (NCC) requirements

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window Description	Maximum		Substitution tolerance ranges	
		U-value*	SHGC*	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62
ATB-006-01 B	ATB-006-01 B Al Thermally Broken B DG Argon Fill Clear-Clear	3.5	0.64	0.61	0.67

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window iD	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Availal	ble					



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
IT	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Ensuite Bed 1	ALM-004-01 A	n/a	880	850	n/a	45	SE	Yes
Kitchen/Living	ATB-006-01 B	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	1570	2700	n/a	45	SE	No
Bedroom 2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	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 Maximum SHGC\* Substitution tolerance ranges

U-value\* SHGC lower limit SHGC upper limit

No Data Available

### Roof window schedule

Location Window Window Opening Height Width Orientation Outdoor Indoor shade shade

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

Location Skylight Skylight Skylight Shaft length (m²) 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	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3995	SE	0	NO
Bedroom 1	EW-1	2700	3195	SW	0	NO
П	EW-1	2700	2620	SW	0	NO
Ensuite Bed 1	EW-1	2700	900	NE	9800	YES
Ensuite Bed 1	EW-1	2700	2995	SE	0	NO
Kitchen/Living	EW-1	2700	6500	NE	2900	NO
Kitchen/Living	EW-1	2700	3900	SE	0	NO
Kitchen/Living	EW-1	2700	900	SW	10000	YES
Kitchen/Living	EW-1	2700	2995	SE	900	YES
Bedroom 2	EW-1	2700	3000	NW	5800	YES
Bedroom 2	EW-1	2700	3095	SW	2475	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		66.00	No insulation
IW-2 - Stone		10.00	No insulation
IW-3 - Concrete Panel/Blocks filled, plasterboard		20.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	13.70 None	No Insulation	Carpet+Rubber Underlay 18mm
ΙΤ	Concrete Slab, Unit Below 200mm	15.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 200mm	3.50 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	4.20 None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab, Unit Below 200mm	1.40 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	46.30 None	No Insulation	80/20 Carpet 10mm/Ceramic
Bedroom 2	Concrete Slab, Unit Below 200mm	10.80 None	No Insulation	Carpet+Rubber Underlay 18mm



# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Π	Concrete, Plasterboard	Bulk Insulation R1.5	No
Ensuite Bed 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bathroom	Concrete, Plasterboard	Bulk Insulation R1.5	No
Laundry	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom 2	Concrete, Plasterboard	Bulk Insulation R1.5	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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

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### **Explanatory notes**

#### About this report

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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.

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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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.						
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the						
Assessed 11001 area	design documents.						
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes						
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.						
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it						
Conditioned	will include garages.						
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme						
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.						
Education	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor						
Entrance door	in a Class 2 building.						
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).						
E	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered						
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).						
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.						
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.						
Harden and all a bradles of the advance	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper						
Horizontal shading feature	levels.						
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4						
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.						
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.						
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional						
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at						
	www.nathers.gov.au						
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.						
De of colordon.	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						
Roof window	generally does not have a diffuser.						
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.						
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.						
0.1.1.4.1. (61.100)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released						
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.						
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.						
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.						
	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.						
Unconditioned							
Unconditioned Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy						

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Version: 1, Version Date: 11/08/2020

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975298

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 17, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

#### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor ar	Exposure Type	
Conditioned*	95.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	95.0	28
Garage	0.0	



# Thermal performance

Heating Cooling 31.0  $MJ/m^2$ 

# Accredited assessor

Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=XmlOCwaYl.

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

#### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Documerated on 13. 1912(128) sping BERS Pro v4.4.0.1 (3.21) for Unit 17, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	2400	2170	n/a	45	SW	No
Bedroom 2	ALM-004-01 A	n/a	2400	2170	n/a	45	SW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	2700	n/a	45	NW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

# Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

No Data Available

### Roof window schedule

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

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

# Skylight schedule

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

No Data Available

### External door schedule

Orientation Location Height (mm) Width (mm) Opening %

No Data Available



# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3995	NW	0	NO
Bedroom 1	EW-1	2700	3295	SW	6400	NO
Ensuite Bed 1	EW-1	2700	2995	NW	0	NO
Ensuite Bed 1	EW-1	2700	900	NE	11200	YES
Bedroom 2	EW-1	2700	3095	SW	6400	NO
Kitchen/Living	EW-1	2700	3995	NW	800	YES
Kitchen/Living	EW-1	2700	900	SW	11000	YES
Kitchen/Living	EW-1	2700	4400	NW	0	NO
Kitchen/Living	EW-1	2700	6400	NE	2800	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		68.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation

# Floor type

Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Concrete Slab, Unit Below 300mm	14.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Concrete Slab, Unit Below 300mm	3.70 None	No Insulation	Ceramic Tiles 8mm
Concrete Slab, Unit Below 300mm	3.70 None	No Insulation	Ceramic Tiles 8mm
Concrete Slab, Unit Below 300mm	1.80 None	No Insulation	Ceramic Tiles 8mm
Concrete Slab, Unit Below 300mm	10.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Concrete Slab, Unit Below 300mm	2.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Concrete Slab, Unit Below 300mm	59.20 None	No Insulation	80/20 Carpet 10mm/Ceramic
	Concrete Slab, Unit Below 300mm  Concrete Slab, Unit Below 300mm	Construction (m²) ventilation  Concrete Slab, Unit Below 300mm 14.20 None  Concrete Slab, Unit Below 300mm 3.70 None  Concrete Slab, Unit Below 300mm 3.70 None  Concrete Slab, Unit Below 300mm 1.80 None  Concrete Slab, Unit Below 300mm 10.20 None  Concrete Slab, Unit Below 300mm 2.40 None	Construction (m²) ventilation (R-value)  Concrete Slab, Unit Below 300mm 14.20 None No Insulation  Concrete Slab, Unit Below 300mm 3.70 None No Insulation  Concrete Slab, Unit Below 300mm 1.80 None No Insulation  Concrete Slab, Unit Below 300mm 10.20 None No Insulation  Concrete Slab, Unit Below 300mm 10.20 None No Insulation  Concrete Slab, Unit Below 300mm 2.40 None No Insulation

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	No insulation	No
Ensuite Bed 1	Concrete, Plasterboard	No insulation	No

Version: 1, Version Date: 11/08/2020

#### 0004975298 NatHERS Certificate

#### **7.8 Star Rating** as of 02 Jul 2020



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

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

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### **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 Nath—ERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

### **Glossary**

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

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### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975306

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 18, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor area	a (m²)*	Exposure Type
Conditioned*	88.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	88.0	28
Garage	0.0	



### Thermal performance

Heating Cooling 40.7

# Accredited assessor

Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=khyLboAYm.

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

#### National Construction Code (NCC) requirements

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

#### Custom\* windows

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

Documented on 192-1924 Housing BERS Pro v4.4.0.1 (3.21) for Unit 18, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Bedroom 2	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Bedroom 1	ALM-004-01 A	n/a	2400	2400	n/a	45	NE	No

### Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

### Roof window schedule

Height Width Outdoor Indoor Window Window Opening Location Orientation % (mm) (mm) shade shade no.

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

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

No Data Available

### External door schedule

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

Version: 1, Version Date: 11/08/2020



# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	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	4995	NE	3700	NO
Bedroom 2	EW-1	2700	2990	NE	3700	NO
Bedroom 1	EW-1	2700	3220	NE	3700	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
W-1 - Concrete Panel/Blocks filled, plasterboard		26.00	No Insulation
W-2 - Cavity wall, direct fix plasterboard, single gap		74.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 300mm	47.30 None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 300mm	1.80 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 300mm	11.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 300mm	6.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 300mm	17.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 300mm	3.50 None	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

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

Page 4 of 6



# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **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

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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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the
Assessed 11001 area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Estuana da an	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Smaarma aata nama amaa	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Harden out all a landling of a strong	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NCC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
De of colordon.	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
Roof window	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0.1.1.4.1. (0.1.00)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Giconalionea	
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

Page 6 of 6

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975330

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 19, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

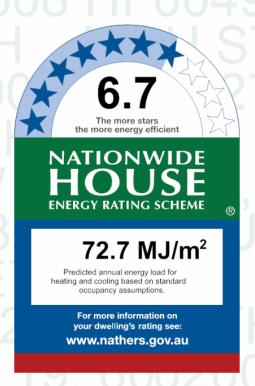
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor area	ı (m²)*	Exposure Type
Conditioned*	87.0	Suburban
Unconditioned*	4.0	NatHERS climate zone
Total	91.0	28
Garage	0.0	



### Thermal performance

Heating Cooling 54.4  $MJ/m^2$  $MJ/m^2$ 

# accredited assessor

Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=psljNTlCw.

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

#### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
VIII I GOV I D	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WITIGOW ID	Description	U-value*	знас	SHGC lower limit	SHGC upper limit	
No Data Availal	ble					

Documerated on 13. 1912(128) sping BERS Pro v4.4.0.1 (3.21) for Unit 19, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1600	1600	n/a	45	NE	No
Ensuite Bed 1	ALM-004-01 A	n/a	750	750	n/a	10	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	1200	n/a	45	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	1200	n/a	45	SE	Yes
Bedroom 2	ALM-004-01 A	n/a	750	1300	n/a	00	SE	No
Bedroom 2	ALM-004-01 A	n/a	1600	600	n/a	20	SE	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	90	NE	No

# Roof window type and performance

Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WITIGOW ID	Description	U-value*	энэс	SHGC lower limit	SHGC upper limit	
No Data Availal	ble					

Custom\* roof windows

Window ID	odow ID Window	Maximum	SHGC*	Substitution tolerance ranges		
WILLIAM ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	

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 (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Ava	ailable							



### **External door** schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	NE

# 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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	2600	NW	4300	YES
Bedroom 1	EW-1	2700	3600	NE	0	NO
Bedroom 1	EW-1	2700	4395	SE	0	NO
Ensuite Bed 1	EW-2	2700	1495	SE	0	NO
Ensuite Bed 1	EW-1	2700	2695	SW	0	YES
Kitchen/Living	EW-1	2700	2600	NW	3100	YES
Kitchen/Living	EW-1	2700	5195	NE	5000	YES
Kitchen/Living	EW-1	2700	2795	SE	2700	YES
Bedroom 2	EW-1	2700	2995	SE	0	NO
Bathroom	EW-1	2700	2695	NE	8700	YES
Bathroom	EW-1	2700	1595	SE	0	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		51.00	No insulation
IW-2 - Stone		9.00	No insulation
IW-3 - Concrete Panel/Blocks filled, plasterboard		8.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 300mm	16.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 300mm	3.90 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 300mm	53.10 None	No Insulation	80/20 Carpet 10mm/Ceramic
Laundry	Concrete Slab, Unit Below 300mm	2.10 None	No Insulation	Ceramic Tiles 8mm



Location	Construction	Area Sub-floor (m) ventilation	Added insulation (R-value)	Covering
Bedroom 2	Concrete Slab, Unit Below 300mm	10.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Hallway	Concrete Slab, Unit Below 300mm	1.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 300mm	4.10 None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

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

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

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### **Explanatory notes**

#### About this report

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

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## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975363

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

## **Property**

**Address** Unit 20, 608 High Street, Penrith, NSW,

2750

153855 Lot/DP

NCC Class\*

Type **New Dwelling** 

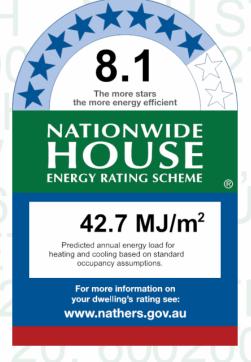
#### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor area	Exposure Type	
Conditioned*	58.0	Suburban
Unconditioned*	4.0	NatHERS climate zone
Total	62.0	28
Garage	0.0	



## Thermal performance

Heating Cooling 22.7



Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=MfyvUTucD.

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

#### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum SHG0		Substitution to	n tolerance ranges	
WITIGOWID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Documerated on 13. 1912(120) In BERS Pro v4.4.0.1 (3.21) for Unit 20, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	2400	2400	n/a	45	SW	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	10	SW	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

### Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

Window ID Window Description Waximum U-value\* SHGC\* Substitution tolerance ranges

SHGC lower limit SHGC upper limit

Roof window schedule

Location Window Window Opening Height Width Orientation Outdoor Indoor Indoor shade shade

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

## Skylight schedule

Location Skylight Skylight Skylight Shaft length (m²) Orientation 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	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3795	SE	0	NO
Bedroom 1	EW-1	2700	3595	SW	2600	NO
Bathroom	EW-1	2700	1795	SW	2600	NO
Dining	EW-1	2700	3295	SE	4000	YES
Kitchen/Living	EW-1	2700	4000	NE	2300	YES
Kitchen/Living	EW-1	2700	5195	SE	0	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		40.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		44.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation n (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 300mm	13.30 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 300mm	4.50 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Dining	Concrete Slab, Unit Below 300mm	9.60 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Entry/Hall	Concrete Slab, Unit Below 300mm	4.10 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 300mm	30.60 None	Bulk Insulation in Contact with Floor R1.5	80/20 Carpet 10mm/Ceramic

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	No insulation	No
Bathroom	Concrete, Plasterboard	No insulation	No
Dining	Concrete, Plasterboard	No insulation	No
Entry/Hall	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No



## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **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 Nath—ERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the
Assessed 11001 area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Education	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
E	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Harden and all a bradles of the advance	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
De of colordon.	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
Roof window	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0.1.1.4.1. (61.100)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Unconditioned	
Unconditioned Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

Page 6 of 6

## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975397

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

## **Property**

**Address** Unit 21, 608 High Street, Penrith, NSW,

2750

153855 Lot/DP

NCC Class\*

Type **New Dwelling** 

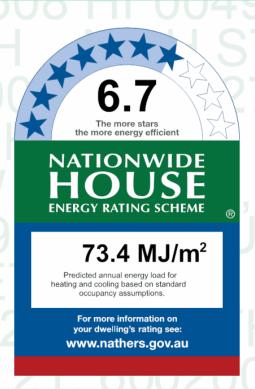
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor a	rea (m²)*	Exposure Type
Conditioned*	101.0	Suburban
Unconditioned*	0.0	NatHERS climate zon
Total	101.0	28
Garage	0.0	



## Thermal performance

Heating Cooling 61.4  $MJ/m^2$ 

# Accredited assessor

Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=vgLnZKIXr.

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

#### **National Construction Code (NCC) requirements**

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

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

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



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ATB-006-01 B	ATB-006-01 B Al Thermally Broken B DG Argon Fill Clear-Clear	3.5	0.64	0.61	0.67	

#### Custom\* windows

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

Page 2 of 6



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ATB-006-01 B	n/a	2400	3000	n/a	45	SW	No
Bedroom 1	ATB-006-01 B	n/a	2400	2400	n/a	45	SW	No
Bedroom 2	ATB-006-01 B	n/a	2400	2400	n/a	45	SW	No
Family/Stairs L	ATB-006-01 B	n/a	1800	850	n/a	20	NW	No

## Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

Window ID Window Description Waximum U-value\* SHGC\* Substitution tolerance ranges

SHGC lower limit SHGC upper limit

### Roof window schedule

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

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

## Skylight schedule

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

#### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	SW



## 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	Bulk Insulation R1.5	No	
EW-2	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	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	7625	NW	0	YES
Kitchen/Living	EW-1	2700	6400	SW	2300	NO
Bedroom 1	EW-2	2700	3395	SW	2500	NO
Bedroom 2	EW-2	2700	3995	NW	14775	NO
Bedroom 2	EW-2	2700	2995	SW	2500	NO
Family/Stairs L	EW-2	2700	3620	NW	14725	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		74.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		55.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation n (R-value)	Covering
Entry	Concrete Slab, Unit Below 300mm	5.10 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 300mm	49.10 None	Bulk Insulation in Contact with Floor R1.5	80/20 Carpet 10mm/Ceramic
Bedroom 1/Kitchen/Living	Concrete Above Plasterboard 200mm	14.60	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Concrete Above Plasterboard 200mm	11.70	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1/Kitchen/Living	Concrete Above Plasterboard 200mm	3.30	No Insulation	Ceramic Tiles 8mm
Family/Stairs L/Kitchen/Living	Concrete Above Plasterboard 200mm	18.00	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom L1/Entry	Concrete Above Plasterboard 200mm	5.10	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Entry	Concrete, Plasterboard	No insulation	No
Entry	Concrete Above Plasterboard	No Insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No

#### 0004975397 NatHERS Certificate

#### **6.7 Star Rating** as of 02 Jul 2020



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete Above Plasterboard	No Insulation	No
Bedroom 1	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Ensuite Bed 1	Concrete, Plasterboard	No insulation	No
Family/Stairs L	Concrete, Plasterboard	No insulation	No
Bathroom L1	Concrete, Plasterboard	No insulation	No

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **Explanatory notes**

#### About this report

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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.

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

### **Glossary**

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

Page 6 of 6

## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975421

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

## **Property**

**Address** Unit 22, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

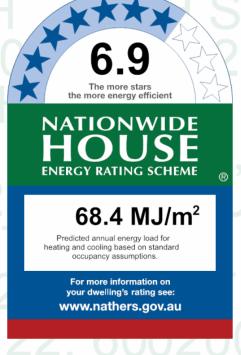
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	97.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	97.0	28
Garage	0.0	



## Thermal performance

Heating Cooling 57.0  $MJ/m^2$ 



Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=REIUJCyKS.

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

#### National Construction Code (NCC) requirements

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ra	
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

#### Custom\* windows

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

Document of the Street , Penrith , NSW , 2750



## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Bedroom 2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Kitchen/Living	ALM-004-01 A	n/a	860	2650	n/a	45	NW	No
Kitchen/Living	ALM-004-01 A	n/a	2400	4300	n/a	45	SW	No

## Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

Window ID

Window Description

Waximum U-value\*

SHGC\*

Substitution tolerance ranges

SHGC lower limit SHGC upper limit

#### Roof window schedule

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

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

## Skylight schedule

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

### **External door** schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	NE



## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	5795	SE	15000	NO
Bedroom 1	EW-1	2700	3495	SW	2200	NO
Bedroom 2	EW-1	2700	1100	NW	10700	YES
Bedroom 2	EW-1	2700	2995	SW	2200	NO
Ensuite Bed 1	EW-1	2700	1520	SE	15000	NO
Kitchen/Living	EW-1	2700	4200	NW	5800	NO
Kitchen/Living	EW-1	2700	4895	SW	3300	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		74.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		14.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation n (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 300mm	19.90 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 300mm	12.60 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 300mm	3.60 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 300mm	3.80 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 300mm	3.60 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 300mm	2.10 None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 300mm	51.20 None	Bulk Insulation in Contact with Floor R1.5	80/20 Carpet 10mm/Ceramic

## Ceiling type

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

#### 0004975421 NatHERS Certificate

#### **6.9 Star Rating** as of 02 Jul 2020



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bathroom	Concrete, Plasterboard	No insulation	No
Laundry	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **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.

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#### **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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the
Assessed 11001 area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Education	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
E	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Harden and all a bradles of the advance	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
De of colordon.	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
Roof window	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0.1.1.4.1. (61.100)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Unconditioned	
Unconditioned Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

Page 6 of 6

## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975454

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

## **Property**

**Address** Unit 23, 608 High Street, Penrith, NSW

2750

153855 Lot/DP

NCC Class\*

Type **New Dwelling** 

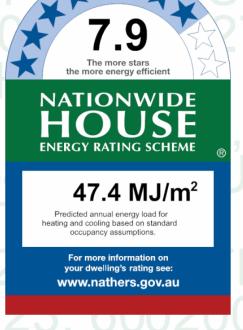
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	ea (m²)*	Exposure Type
Conditioned*	95.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	95.0	28
Garage	0.0	



## Thermal performance

Heating Cooling 27.4  $MJ/m^2$ 

# Accredited assessor

Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=vBQdPYPVo.

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

#### National Construction Code (NCC) requirements

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Document of the Street , Penrith , NSW , 2750



## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	2400	2170	n/a	45	SW	No
Bedroom 2	ALM-004-01 A	n/a	2400	2170	n/a	45	SW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	2700	n/a	45	NW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

## Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

No Data Available

### Roof window schedule

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

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

## Skylight schedule

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

No Data Available

### External door schedule

Orientation Location Height (mm) Width (mm) Opening %

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	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3995	NW	0	NO
Bedroom 1	EW-1	2700	3295	SW	6400	NO
Ensuite Bed 1	EW-1	2700	2995	NW	0	NO
Ensuite Bed 1	EW-1	2700	900	NE	11200	YES
Bedroom 2	EW-1	2700	3095	SW	6400	NO
Kitchen/Living	EW-1	2700	3995	NW	800	YES
Kitchen/Living	EW-1	2700	900	SW	11000	YES
Kitchen/Living	EW-1	2700	4400	NW	0	NO
Kitchen/Living	EW-1	2700	6400	NE	2800	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		68.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 300mm	14.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 300mm	3.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 300mm	3.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 300mm	1.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 300mm	10.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Hallway	Concrete Slab, Unit Below 300mm	2.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 300mm	59.20 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	No insulation	No
Ensuite Bed 1	Concrete, Plasterboard	No insulation	No

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#### 0004975454 NatHERS Certificate

#### **7.9 Star Rating** as of 02 Jul 2020



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

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **Explanatory notes**

#### About this report

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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.

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### **Glossary**

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

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## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975496

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

## **Property**

**Address** Unit 24, 608 High Street, Penrith, NSW,

2750

153855 Lot/DP

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	a (m <sup>2</sup> )*	Exposure Type
Conditioned*	57.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	57.0	28
Garage	0.0	



Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant



## Thermal performance

Heating Cooling 45.5  $MJ/m^2$ 

#### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate?

p=OFhnqkOcR.

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

#### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

#### Custom\* windows

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

Documerated on 13. 1912(128) sping BERS Pro v4.4.0.1 (3.21) for Unit 24, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

## Roof window type and performance

Default\* roof windows

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

No Data Available

Custom\* roof windows

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

No Data Available

### Roof window schedule

Window Window Opening Height Width **Outdoor** Indoor Location Orientation (mm) (mm) shade shade

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

## Skylight schedule

**Skylight** Skylight **Skylight Outdoor** Skylight shaft **A**rea Location shaft length Orientation Diffuser No. (m<sup>2</sup>)shade reflectance (mm)

No Data Available

### External door schedule

Location Height (mm) Width (mm) Opening % Orientation

No Data Available

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

\* Refer to glossary

Documerated on 182-1912/030 Injung BERS Pro v4.4.0.1 (3.21) for Unit 24, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-2	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bathroom	EW-1	2700	2420	SE	15300	YES
Bedroom1	EW-2	2700	3195	NE	2900	NO
Kitchen/Living	EW-1	2700	1490	SE	15300	NO
Kitchen/Living	EW-2	2700	4095	NE	2900	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		39.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		32.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bathroom	Concrete Slab, Unit Below 200mm	5.40 None	No Insulation	Ceramic Tiles 8mm
Bedroom1	Concrete Slab, Unit Below 200mm	12.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	4.00 None	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.70 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bathroom	Concrete, Plasterboard	No insulation	No
Bedroom1	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

Page 4 of 6



## **Ceiling** fans

Location Quantity Diameter (mm) No Data Available

## Roof type

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

None Present

Page 5 of 6



### **Explanatory notes**

#### About this report

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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).

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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.

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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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

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

Page 6 of 6

## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975512

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

## **Property**

**Address** Unit 25, 608 High Street, Penrith, NSW,

2750

153855 Lot/DP

NCC Class\*

Type **New Dwelling** 

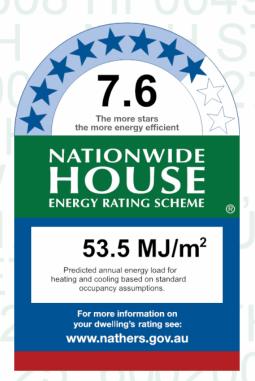
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	55.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	55.0	28
Garage	0.0	



## Thermal performance

Heating Cooling 38.9  $MJ/m^2$ 

# ccredited assessor

Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=UNMOwVcnu.

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#### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum SHGC*		Substitution tolerance ranges		
WITIGOWID	Description			SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	знас	SHGC lower limit	SHGC upper limit
No Data Availal	ble				

Documerated on 13. 1912(120) In BERS Pro v4.4.0.1 (3.21) for Unit 25, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No

## Roof window type and performance

Default\* roof windows

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

No Data Available

Custom\* roof windows

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

No Data Available

### Roof window schedule

Window Window Opening Height Width **Outdoor** Indoor Location Orientation (mm) (mm) shade shade

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

## Skylight schedule

**Skylight** Skylight **Skylight Outdoor** Skylight shaft **A**rea Location shaft length Orientation Diffuser No. (m<sup>2</sup>)shade reflectance (mm)

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	Bulk Insulation R1.5	No

\* Refer to glossary

Documerated on 182-1912/030 Injung BERS Pro v4.4.0.1 (3.21) for Unit 25, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



### 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	4095	NE	2900	NO	
Bedroom 1	EW-1	2700	3295	NE	2900	NO	

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		39.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		38.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	37.20 None	No Insulation	80/20 Carpet 10mm/Ceramic
Laundry	Concrete Slab, Unit Below 200mm	1.10 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	4.20 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	12.90 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

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

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Page 4 of 6



**7.6 Star Rating** as of 02 Jul 2020



## Roof type

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

None Present

Page 5 of 6



### **Explanatory notes**

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Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
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(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
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	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
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NOOI WIIIGOW	generally does not have a diffuser.
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Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Salan ha et main an efficient (SLICC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for Nath this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

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### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975546

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 26, 608 High Street, Penrith, NSW,

2750

153855 Lot/DP

NCC Class\*

Type **New Dwelling** 

#### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	77.0	Suburban
Unconditioned*	4.0	NatHERS climate zone
Total	81.0	28
Garage	0.0	



Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant



### Thermal performance

Heating Cooling 38.2  $MJ/m^2$ 

#### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate?

p=BvsVFhDnn.

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

#### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WITIGOW ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
WITIGOW ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit
No Data Availa	ble				

Documerated on 13. 1912(120) In BERS Pro v4.4.0.1 (3.21) for Unit 26, 608 High Street , Penrith , NSW , 2750

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### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Ensuite Bed 1	ALM-004-01 A	n/a	750	750	n/a	10	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	1200	n/a	45	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	1200	n/a	45	SE	Yes
Bedroom 2	ALM-004-01 A	n/a	750	1300	n/a	00	SE	No
Bedroom 2	ALM-004-01 A	n/a	1600	600	n/a	20	SE	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	90	NE	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	10	SE	No

### Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

No Data Available

### Roof window schedule

Window Window **Opening** Height Width Outdoor Indoor Location Orientation shade ID no. % (mm) (mm) 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 (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance	
No Data Ava	ailable							_	

\* Refer to glossary



### **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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	2600	NW	4100	YES
Bedroom 1	EW-1	2700	3600	NE	0	NO
Bedroom 1	EW-1	2700	4395	SE	0	NO
Ensuite Bed 1	EW-1	2700	1495	SE	0	NO
Ensuite Bed 1	EW-1	2700	2695	SW	0	YES
Kitchen/Living	EW-1	2700	2600	NW	4200	NO
Kitchen/Living	EW-1	2700	4095	NE	2600	YES
Kitchen/Living	EW-1	2700	2795	SE	2700	YES
Kitchen/Living	EW-2	2700	6795	NW	0	NO
Bedroom 2	EW-1	2700	2995	SE	0	NO
Bathroom	EW-1	2700	2700	NE	8700	NO
Bathroom	EW-1	2700	1595	SE	0	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		75.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		12.00	No Insulation

### Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	16.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 200mm	3.90 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	38.10 None	No Insulation	80/20 Carpet 10mm/Ceramic
Laundry	Concrete Slab, Unit Below 200mm	2.20 None	No Insulation	Ceramic Tiles 8mm

Version: 1, Version Date: 11/08/2020



Location	Construction	Area Sub-floor (m) ventilation	Added insulation (R-value)	Covering
Bedroom 2	Concrete Slab, Unit Below 200mm	10.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Hallway	Concrete Slab, Unit Below 200mm	1.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	4.10 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	4.70 None	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

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

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			·

Page 5 of 6



### **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.

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

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the
Assessed 11001 area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Estuana da an	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Smaarma aata nama amaa	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Hardward also die et es	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NCC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
De of colordon.	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
Roof window	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0.1.1.4.1. (0.1.00)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

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Version: 1, Version Date: 11/08/2020

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975587

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 27, 608 High Street, Penrith, NSW,

2750

153855 Lot/DP

NCC Class\*

Type **New Dwelling** 

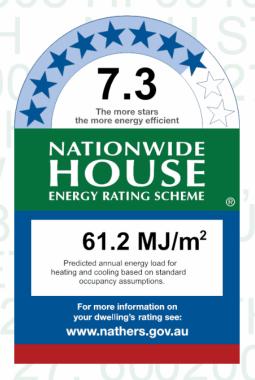
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor area	ı (m²)*	Exposure Type
Conditioned*	58.0	Suburban
Unconditioned*	4.0	NatHERS climate zone
Total	62.0	28
Garage	0.0	



### Thermal performance

Heating Cooling 38.8  $MJ/m^2$ 

# ccredited assessor

Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=xVWqXqUCh.

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

#### National Construction Code (NCC) requirements

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

#### Custom\* windows

Window ID	Window ID Maximum SHGC*	Substitution tolerance ranges			
WITIGOW ID	Description	U-value*	эпос	SHGC lower limit	SHGC upper limit
No Data Availal	ole				

Document of the Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	2400	2400	n/a	45	SW	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	10	SW	No
Dining	ALM-004-01 A	n/a	1370	2170	n/a	45	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

# Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

### Roof window schedule

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

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

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

No Data Available

### External door schedule

Width (mm) Orientation Location Height (mm) Opening %

No Data Available

Version: 1, Version Date: 11/08/2020



# 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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3795	SE	0	NO
Bedroom 1	EW-1	2700	3595	SW	2600	NO
Bathroom	EW-2	2700	1795	SW	2600	NO
Dining	EW-1	2700	3295	SE	4000	YES
Kitchen/Living	EW-2	2700	695	SW	10400	YES
Kitchen/Living	EW-1	2700	4000	NE	2300	YES
Kitchen/Living	EW-1	2700	5195	SE	0	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		40.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		42.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	13.30 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	4.50 None	No Insulation	Ceramic Tiles 8mm
Dining	Concrete Slab, Unit Below 200mm	9.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Entry/Hall	Concrete Slab, Unit Below 200mm	4.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	30.60 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	No insulation	No
Bathroom	Concrete, Plasterboard	No insulation	No
Dining	Concrete, Plasterboard	No insulation	No
Entry/Hall	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No



# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **Explanatory notes**

#### About this report

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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.

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### **Glossary**

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

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Version: 1, Version Date: 11/08/2020

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975595

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 28, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

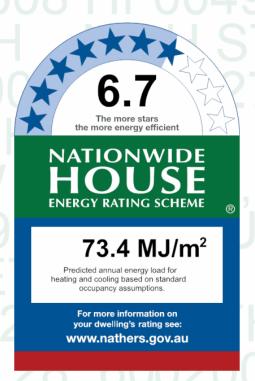
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	a (m²)*	Exposure Type
Conditioned*	97.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	97.0	28
Garage	0.0	



# Thermal performance

Heating Cooling 60.8  $MJ/m^2$ 

# accredited assessor

Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=bRIDPoyuJ.

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

#### National Construction Code (NCC) requirements

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
vvindow iD	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Availa	ble					

Document of the Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Bedroom 2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Kitchen/Living	ALM-004-01 A	n/a	860	2650	n/a	45	NW	No
Kitchen/Living	ALM-004-01 A	n/a	2400	4300	n/a	45	SW	No

# Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

### Roof window schedule

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

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

# Skylight schedule

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

No Data Available

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	NE

Documerated on 182. 1912/030 Ing BERS Pro v4.4.0.1 (3.21) for Unit 28, 608 High Street , Penrith , NSW , 2750



# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	5795	SE	15000	NO
Bedroom 1	EW-1	2700	3495	SW	2200	NO
Bedroom 2	EW-1	2700	1100	NW	10700	YES
Bedroom 2	EW-1	2700	2995	SW	2200	NO
Ensuite Bed 1	EW-1	2700	1520	SE	15000	NO
Kitchen/Living	EW-1	2700	4200	NW	5800	NO
Kitchen/Living	EW-1	2700	4895	SW	3300	YES

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		74.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		14.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	19.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 200mm	12.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 200mm	3.60 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	3.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	3.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 200mm	2.10 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	51.20 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

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

#### 0004975595 NatHERS Certificate

#### **6.7 Star Rating** as of 02 Jul 2020



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bathroom	Concrete, Plasterboard	No insulation	No
Laundry	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

# **Ceiling** fans

Location	Quantity	Diameter (mm)
No Data Available		

# Roof type

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

Page 5 of 6



### **Explanatory notes**

#### About this report

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

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

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

#### Accredited assessors

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

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

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

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

#### **Disclaimer**

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

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

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

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Cenning perietrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Eveneum esterior com	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for Nathers this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and
NOOI WIIIGOW	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar fleat gain coefficient (Shoc)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for Nathers this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
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# Nationwide House Energy Rating Scheme — Class 2 summary NatHERS Certificate No. 0004976430

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

Address 608 High Street , Penrith , NSW ,

2750

Lot/DP 153855

NatHERS climate zone

28





**David Howard** 

Partners Energy Management

david@partnersenergy.com.au

0421381005

Accreditation No.

20039

**Assessor Accrediting Organisation** 

**ABSA** 



#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=VTMOWeYtd When using either link, ensure you are visiting hstar.com.au

### Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m²/p.a.)	Cooling load (MJ/m²/p.a.)	Total load (MJ/m <sup>2</sup> /p.a.)	Star rating
0004975264	, 1 I Y O	18.8	22.3	41.1	8.2
0004975272	2 / 0	12.2	16.4	28.5	8.8
0004975314	3	17	20.4	37.4	8.4
0004975348-01	4	29.5	18.3	47.8	7.9
0004975371	5	22.9	23.4	46.3	7.9

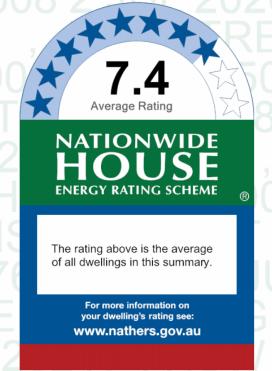
Continued Over

#### **National Construction Code (NCC) requirements**

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

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

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





### Summary of all dwellings (continued)

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
0004975405	6	16.1	17.6	33.6	8.5
0004975439	7	21.4	21.1	42.5	8.1
0004975462	8	44.4	18.2	62.6	7.2
0004975488	9	22.9	23.6	46.5	7.9
0004975520	10	16.5	16.8	33.3	8.6
0004975561	11	21.9	21.2	43.1	8.1
0004975579	12	44.2	18	62.2	7.2
0004975603	13	44	21.9	65.9	7
0004976296-01	14	35	18.7	53.7	7.6
0004976387	15	42.8	20.8	63.6	7.2
0004975256	16	61.1	18.5	79.6	6.4
0004975298	17	31	17.6	48.6	7.8
0004975306	18	40.7	12.8	53.5	7.6
0004975330	19	54.4	18.4	72.7	6.7
0004975363	20	22.7	20.1	42.7	8.1
0004975397	21	61.4	12	73.4	6.7
0004975421	22	57	11.3	68.4	6.9
0004975454	23	27.4	20	47.4	7.9
0004975496	24	45.5	16.1	61.6	7.3
0004975512	25	38.9	14.6	53.5	7.6
0004975546	26	38.2	25.7	63.9	7.1
0004975587	27	38.8	22.5	61.2	7.3
0004975595	28	60.8	12.7	73.4	6.7
0004975249	29	27.8	21	48.7	7.8
0004975280	30	40.7	16.3	57	7.4
0004975322	31	36.4	14.5	51	7.7
0004975355	32	38.3	25.9	64.2	7.1
0004975389	33	39.3	22.3	61.6	7.2
0004975413	34	61.3	12.6	73.9	6.7
0004975447	35	46.8	18	64.8	7.1
0004975470	36	60.5	16.7	77.2	6.4
0004975504	37	61.1	14.6	75.7	6.6
0004975538	38	47.9	22.8	70.6	6.8
0004975553	39	60.8	21.6	82.4	6.3
0004976411	40	45.9	16.4	62.3	7.2
0004976395	41	59.3	17.8	77.1	6.4
Aver	age	39.36	18.57	57.91	7.4

## **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,

#### 0004976430 NatHERS Certificate

#### Average 7.4 Star Rating as of 02 Jul 2020



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**

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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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### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975280

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 30, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

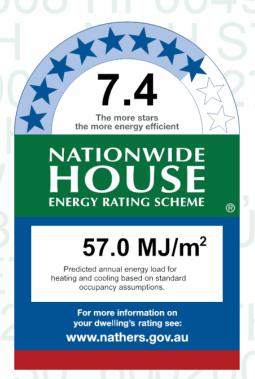
#### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	57.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	57.0	28
Garage	0.0	



### Thermal performance

Heating Cooling 40.7



Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=gSfltBBFQ.

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

#### National Construction Code (NCC) requirements

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum SHGC*		Substitution tolerance ranges		
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
WITIGOW ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit
No Data Availa	ble				

Document of the Street is glossary.

Document Set in 13-19-24-69 Aging BERS Pro v4.4.0.1 (3.21) for Unit 30, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

### Roof window type and performance

Default\* roof windows

Window ID Window Description Waximum 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 Window Opening Height Width Orientation Outdoor Indoor Indoor shade shade

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

Location Skylight Skylight Skylight Shaft length (mm) Skylight Shaft length Orientation Outdoor Shade Diffuser Skylight Shaft reflectance

No Data Available

### External door schedule

Location Height (mm) Width (mm) Opening % Orientation

No Data Available

Version: 1, Version Date: 11/08/2020

### External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

\* Refer to glossary.

Documerated on 162-91-200-15 ing BERS Pro v4.4.0.1 (3.21) for Unit 30, 608 High Street , Penrith , NSW , 2750



Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-2	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bathroom	EW-1	2700	2420	SE	15300	YES
Bedroom1	EW-2	2700	3195	NE	2900	NO
Kitchen/Living	EW-1	2700	1490	SE	15300	NO
Kitchen/Living	EW-2	2700	4095	NE	2900	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		39.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		32.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bathroom	Concrete Slab, Unit Below 200mm	5.40 None	No Insulation	Ceramic Tiles 8mm
Bedroom1	Concrete Slab, Unit Below 200mm	12.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	4.00 None	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.70 None	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bathroom	Concrete, Plasterboard	No insulation	No
Bedroom1	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

Page 4 of 6



# **Ceiling** fans

Location Quantity Diameter (mm)

No Data Available

# Roof type

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

None Present

Page 5 of 6



### **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).

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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.

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#### **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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Cenning perietrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Eveneum esterior com	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for Nathers this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and
NOOI WIIIGOW	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar fleat gain coefficient (Shoc)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for Nathers this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
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Page 6 of 6

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975322

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 31, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	55.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	55.0	28
Garage	0.0	



Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

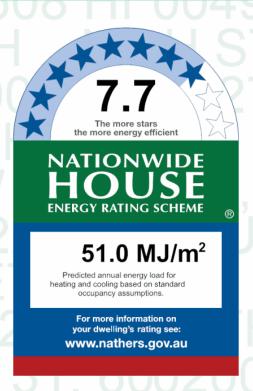
Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant



## Thermal performance

Heating Cooling 36.4  $MJ/m^2$ 

#### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate?

p=uhJQGGKov.

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

#### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Willidow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Documerated on 13. 1912(128) sping BERS Pro v4.4.0.1 (3.21) for Unit 31, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No

### Roof window type and performance

Default\* roof windows

Window ID Window Description Waximum 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 Window Opening Height Width Orientation Outdoor Indoor Indoor shade shade

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

Location Skylight Skylight Shaft length (mm) Skylight Shaft length (m²) Orientation Shade Diffuser Skylight Shaft reflectance

No Data Available

### External door schedule

Location Height (mm) Width (mm) Opening % Orientation

No Data Available

Version: 1, Version Date: 11/08/2020

### 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	Bulk Insulation R1.5	No

\* Refer to glossary.

Documerated on 162-1912/2020 yiging BERS Pro v4.4.0.1 (3.21) for Unit 31, 608 High Street , Penrith , NSW , 2750



### 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	4095	NE	2900	NO	
Bedroom 1	EW-1	2700	3295	NE	2900	NO	

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		39.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		38.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	37.20 None	No Insulation	80/20 Carpet 10mm/Ceramic
Laundry	Concrete Slab, Unit Below 200mm	1.10 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	4.20 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	12.90 None	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

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

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

# Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		



**7.7 Star Rating** as of 02 Jul 2020



# Roof type

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

None Present



### **Explanatory notes**

#### About this report

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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.

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Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
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Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
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	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for Nath-S 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
ROOI WIIIGOW	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar hoot goin coefficient (SUCC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for Nath-S this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

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Version: 1, Version Date: 11/08/2020

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975355

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 32, 608 High Street, Penrith, NSW,

2750

153855 Lot/DP

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	a (m²)*	Exposure Type
Conditioned*	77.0	Suburban
Unconditioned*	4.0	NatHERS climate zone
Total	81.0	28
Garage	0.0	



Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

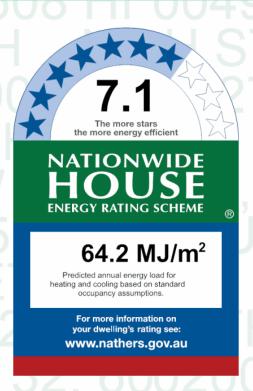
Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant



## Thermal performance

Heating Cooling 38.3  $MJ/m^2$ 

#### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate?

p=gdhBsBazk.

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

#### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Willidow ID	Description	U-value*	эпос	SHGC lower limit	SHGC upper limit	
No Data Availal	ble					

Documerated on 13. 1912(120) In BERS Pro v4.4.0.1 (3.21) for Unit 32, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Ensuite Bed 1	ALM-004-01 A	n/a	750	750	n/a	10	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	1200	n/a	45	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	1200	n/a	45	SE	Yes
Bedroom 2	ALM-004-01 A	n/a	750	1300	n/a	00	SE	No
Bedroom 2	ALM-004-01 A	n/a	1600	600	n/a	20	SE	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	90	NE	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	10	SE	No

### Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

No Data Available

### Roof window schedule

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

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

### Skylight schedule

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

\* Refer to glossary



### **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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	2600	NW	4100	YES
Bedroom 1	EW-1	2700	3600	NE	0	NO
Bedroom 1	EW-1	2700	4395	SE	0	NO
Ensuite Bed 1	EW-1	2700	1495	SE	0	NO
Ensuite Bed 1	EW-1	2700	2695	SW	0	YES
Kitchen/Living	EW-1	2700	2600	NW	4200	NO
Kitchen/Living	EW-1	2700	4095	NE	2600	YES
Kitchen/Living	EW-1	2700	2795	SE	2700	YES
Kitchen/Living	EW-2	2700	6795	NW	0	NO
Bedroom 2	EW-1	2700	2995	SE	0	NO
Bathroom	EW-1	2700	2700	NE	8700	NO
Bathroom	EW-1	2700	1595	SE	0	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		75.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		12.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	16.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 200mm	3.90 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	38.10 None	No Insulation	80/20 Carpet 10mm/Ceramic
Laundry	Concrete Slab, Unit Below 200mm	2.20 None	No Insulation	Ceramic Tiles 8mm



Location	Construction	Area Sub-floor (m) ventilation	Added insulation (R-value)	Covering
Bedroom 2	Concrete Slab, Unit Below 200mm	10.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Hallway	Concrete Slab, Unit Below 200mm	1.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	4.10 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	4.70 None	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

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

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **Explanatory notes**

### About this report

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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.

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### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.			
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the			
Assessed 11001 area	design documents.			
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes			
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.			
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it			
Conditioned	will include garages.			
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.			
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.			
Estuana da an	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor			
Entrance door	in a Class 2 building.			
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).			
Smaarma aata nama amaa	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered			
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).			
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.			
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.			
Harden out all a landling of a strong	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper			
Horizontal shading feature	levels.			
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4			
(NCC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.			
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.			
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional			
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at			
	www.nathers.gov.au			
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.			
De of colordon.	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			
Roof window	generally does not have a diffuser.			
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.			
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.			
0.1.1.4.1. (0.1.00)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released			
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.			
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.			
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.			
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.			
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy			

Page 6 of 6

## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975389

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

# **Property**

**Address** Unit 33, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	58.0	Suburban
Unconditioned*	4.0	NatHERS climate zone
Total	62.0	28
Garage	0.0	



Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

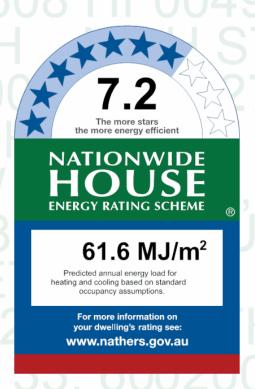
Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant



# Thermal performance

Heating Cooling 39.3  $MJ/m^2$ 

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit



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p=cmFeAtSwq.

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

### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

### Ceiling penetrations\*

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

#### Windows

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

### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	dow Maximum		Substitution to	ion tolerance ranges	
WITIGOW ID	Description	U-value*	SHGC*	SHGC lower limit SHGC u		
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

### Custom\* windows

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

Documerated on 13. 1912(120) In BERS Pro v4.4.0.1 (3.21) for Unit 33, 608 High Street , Penrith , NSW , 2750



## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	2400	2400	n/a	45	SW	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	10	SW	No
Dining	ALM-004-01 A	n/a	1370	2170	n/a	45	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

# Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

Window ID Window Description Waximum U-value\* SHGC\* Substitution tolerance ranges

SHGC lower limit SHGC upper limit

### Roof window schedule

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

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

# Skylight schedule

Location Skylight Skylight Skylight Shaft length (mm) Skylight Shaft length (m²) Orientation Shade Diffuser Skylight Skylight Shaft length (m²)

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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

# External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3795	SE	0	NO
Bedroom 1	EW-1	2700	3595	SW	2600	NO
Bathroom	EW-2	2700	1795	SW	2600	NO
Dining	EW-1	2700	3295	SE	4000	YES
Kitchen/Living	EW-2	2700	695	SW	10400	YES
Kitchen/Living	EW-1	2700	4000	NE	2300	YES
Kitchen/Living	EW-1	2700	5195	SE	0	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		40.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		42.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	13.30 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	4.50 None	No Insulation	Ceramic Tiles 8mm
Dining	Concrete Slab, Unit Below 200mm	9.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Entry/Hall	Concrete Slab, Unit Below 200mm	4.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	30.60 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	No insulation	No
Bathroom	Concrete, Plasterboard	No insulation	No
Dining	Concrete, Plasterboard	No insulation	No
Entry/Hall	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No



# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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			

Page 5 of 6



### **Explanatory notes**

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Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Smaarma aata nama amaa	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NCC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
De of colordon.	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
Roof window	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0.1.1.4.1. (0.1.00)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

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Version: 1, Version Date: 11/08/2020

## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975413

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

# **Property**

**Address** Unit 34, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor area	a (m²)*	Exposure Type
Conditioned*	97.0	Suburban
Unconditioned*	0.0	NatHERS climate zone
Total	97.0	28
Garage	0.0	



Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

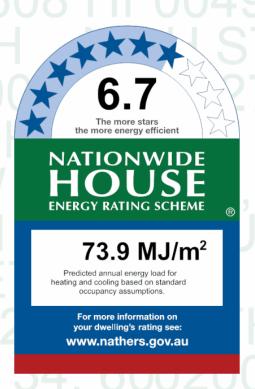
Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant



# Thermal performance

Heating Cooling 61.3  $MJ/m^2$ 

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate?

p=qgmDzrCwc.

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

### National Construction Code (NCC) requirements

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

### Ceiling penetrations\*

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

#### Windows

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

### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

### Custom\* windows

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

Document of the Street , Penrith , NSW , 2750

Version: 1, Version Date: 11/08/2020



## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Bedroom 2	ALM-004-01 A	n/a	1370	2170	n/a	45	SW	No
Kitchen/Living	ALM-004-01 A	n/a	860	2650	n/a	45	NW	No
Kitchen/Living	ALM-004-01 A	n/a	2400	4300	n/a	45	SW	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

Custom\* roof windows

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

### Roof window schedule

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

No Data Available

# Skylight type and performance

Skylight ID Skylight description

No Data Available

# Skylight schedule

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

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	NE



# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	5795	SE	15000	NO
Bedroom 1	EW-1	2700	3495	SW	2200	NO
Bedroom 2	EW-1	2700	1100	NW	10700	YES
Bedroom 2	EW-1	2700	2995	SW	2200	NO
Ensuite Bed 1	EW-1	2700	1520	SE	15000	NO
Kitchen/Living	EW-1	2700	4200	NW	5800	NO
Kitchen/Living	EW-1	2700	4895	SW	3300	YES

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		74.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		14.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	19.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 200mm	12.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 200mm	3.60 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	3.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	3.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 200mm	2.10 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	51.20 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

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

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### 0004975413 NatHERS Certificate

### **6.7 Star Rating** as of 02 Jul 2020



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bathroom	Concrete, Plasterboard	No insulation	No
Laundry	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the
Assessed 11001 area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Estuana da an	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Smaarma aata nama amaa	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Hardward also die et es	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NCC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
De of colordon.	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
Roof window	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0.1.1.4.1. (0.1.00)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
GICOITGILIOTIEG	
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

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## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975447

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

## **Property**

**Address** Unit 35, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

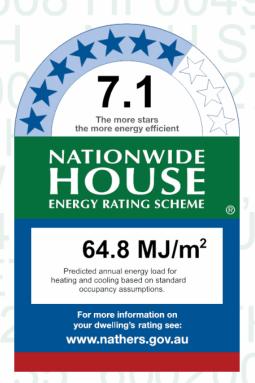
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	ea (m²)*	Exposure Type
Conditioned*	95.0	Open
Unconditioned*	0.0	NatHERS climate zone
Total	95.0	28
Garage	0.0	



# Thermal performance

Heating Cooling 46.8  $MJ/m^2$ 



Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

### 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=gpGYdLNxE.

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

### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

### Ceiling penetrations\*

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

#### Windows

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

### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

### Custom\* windows

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

Documerated on 13. 1912(128) sping BERS Pro v4.4.0.1 (3.21) for Unit 35, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	2400	2170	n/a	45	SW	No
Bedroom 2	ALM-004-01 A	n/a	2400	2170	n/a	45	SW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	2700	n/a	45	NW	No
Kitchen/Living	ALM-004-01 A	n/a	1370	1500	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

# Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

No Data Available

### Roof window schedule

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

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

# Skylight schedule

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

No Data Available

### External door schedule

Orientation Location Height (mm) Width (mm) Opening %

No Data Available

Version: 1, Version Date: 11/08/2020



# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3995	NW	0	NO
Bedroom 1	EW-1	2700	3295	SW	6400	NO
Ensuite Bed 1	EW-1	2700	2995	NW	0	NO
Ensuite Bed 1	EW-1	2700	900	NE	11200	YES
Bedroom 2	EW-1	2700	3095	SW	6400	NO
Kitchen/Living	EW-1	2700	3995	NW	800	YES
Kitchen/Living	EW-1	2700	900	SW	11000	YES
Kitchen/Living	EW-1	2700	4400	NW	0	NO
Kitchen/Living	EW-1	2700	6400	NE	2800	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		68.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		49.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	14.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 200mm	3.70 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	3.70 None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab, Unit Below 200mm	1.80 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	10.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Hallway	Concrete Slab, Unit Below 200mm	2.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	59.20 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Ensuite Bed 1	Concrete, Plasterboard	Bulk Insulation R1.5	No

### 0004975447 NatHERS Certificate

### **7.1 Star Rating** as of 02 Jul 2020



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bathroom	Concrete, Plasterboard	Bulk Insulation R1.5	No
Laundry	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom 2	Concrete, Plasterboard	Bulk Insulation R1.5	No
Hallway	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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

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### **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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

### **Glossary**

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

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## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975470

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

# **Property**

**Address** Unit 36, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

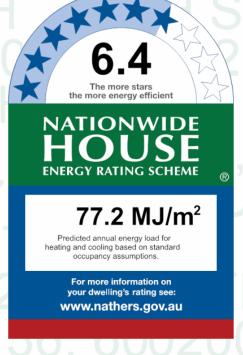
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor ar	Exposure Type	
Conditioned*	57.0	Open
Unconditioned*	0.0	NatHERS climate zone
Total	57.0	28
Garage	0.0	



# Thermal performance

Heating Cooling 60.5 $MJ/m^2$ 



Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

### 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=kbConRDrq.

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

### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

### Ceiling penetrations\*

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

#### Windows

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

### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

### Custom\* windows

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

Documerated on 13. 1912(128) sping BERS Pro v4.4.0.1 (3.21) for Unit 36, 608 High Street , Penrith , NSW , 2750 Version: 1, Version Date: 11/08/2020



## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

## Roof window type and performance

Default\* roof windows

Window ID Window Description Waximum 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 Window Opening Height Width Orientation Outdoor Indoor I

No Data Available

# Skylight type and performance

Skylight ID Skylight description

No Data Available

# Skylight schedule

Location Skylight Skylight Shylight Shylight Shaft length (mm) Skylight Shaft length Orientation 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	0.30	Light	Bulk Insulation R1.5	No

\* Refer to glossary.

Documerated on 162-91-2489 sping BERS Pro v4.4.0.1 (3.21) for Unit 36, 608 High Street , Penrith , NSW , 2750

Documented on 62. 492489 using BERS Pro Version: 1, Version Date: 11/08/2020



Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-2	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bathroom	EW-1	2700	2420	SE	15300	YES
Bedroom1	EW-2	2700	3195	NE	2900	NO
Kitchen/Living	EW-1	2700	1490	SE	15300	NO
Kitchen/Living	EW-2	2700	4095	NE	2900	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		39.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		32.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bathroom	Concrete Slab, Unit Below 200mm	5.40 None	No Insulation	Ceramic Tiles 8mm
Bedroom1	Concrete Slab, Unit Below 200mm	12.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	4.00 None	No Insulation	80/20 Carpet 10mm/Ceramic
Kitchen/Living	Concrete Slab, Unit Below 200mm	34.70 None	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bathroom	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

Page 4 of 6



# **Ceiling** fans

Location Quantity Diameter (mm) No Data Available

# Roof type

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

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### **Explanatory notes**

### About this report

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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.

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### **Glossary**

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

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Version: 1, Version Date: 11/08/2020

## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975504

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

# **Property**

**Address** Unit 37, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	55.0	Open
Unconditioned*	0.0	NatHERS climate zone
Total	55.0	28
Garage	0.0	



Name **David Howard** 

**Business name** Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

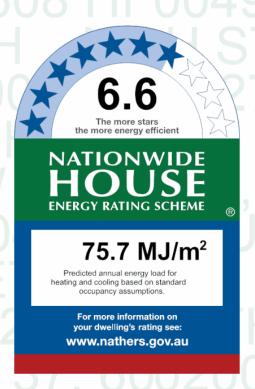
Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant



# Thermal performance

Heating Cooling 61.1

### 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=nWUlppDHA.

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

### National Construction Code (NCC) requirements

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

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

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

Version: 1, Version Date: 11/08/2020



### **Certificate check**

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

#### Genuine certificate

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

### Ceiling penetrations\*

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

#### Windows

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

### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WITHOW ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

### Custom\* windows

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

Document of the Street , Penrith , NSW , 2750



## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No

## Roof window type and performance

Default\* roof windows

Window ID Window Description Waximum 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 Window Opening Height Width Orientation Outdoor Indoor Indoor ID no. % (mm) (mm) orientation shade shade

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

# Skylight schedule

Location Skylight Skylight Skylight Shaft length (mm) Skylight Shaft length (m²) 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	Bulk Insulation R1.5	No

\* Refer to glossary.

Documerated on 162-91-200-15 ing BERS Pro v4.4.0.1 (3.21) for Unit 37, 608 High Street , Penrith , NSW , 2750

Version: 1, Version Date: 11/08/2020



### 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	4095	NE	2900	NO	
Bedroom 1	EW-1	2700	3295	NE	2900	NO	

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		39.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		38.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab, Unit Below 200mm	37.20 None	No Insulation	80/20 Carpet 10mm/Ceramic
Laundry	Concrete Slab, Unit Below 200mm	1.10 None	No Insulation	Ceramic Tiles 8mm
Bathroom	Concrete Slab, Unit Below 200mm	4.20 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	12.90 None	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No
Laundry	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bathroom	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom 1	Concrete, Plasterboard	Bulk Insulation R1.5	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed

# Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Page 4 of 6



# 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

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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.

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#### **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 NatHES accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate

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

# **Glossary**

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

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Version: 1, Version Date: 11/08/2020

## **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975538

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

# **Property**

**Address** Unit 38, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

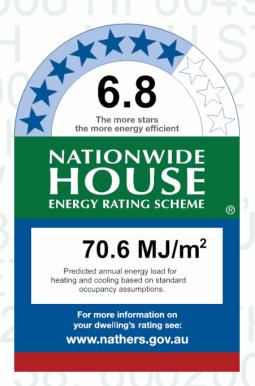
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type		
Conditioned*	77.0	Open	
Unconditioned*	4.0	NatHERS climate zone	
Total	81.0	28	
Garage	0.0		



# Thermal performance

Heating Cooling 47.9  $MJ/m^2$ 

# Accredited assessor

Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

### 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=SEsflNbjG.

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

### National Construction Code (NCC) requirements

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

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

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



### Certificate check

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

#### Genuine certificate

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

### Ceiling penetrations\*

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

#### Windows

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

### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
Williaow ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62

### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
WITIGOW ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit
No Data Availa	ble				

Documerated on 13. 1912(128) sping BERS Pro v4.4.0.1 (3.21) for Unit 38, 608 High Street , Penrith , NSW , 2750



## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	1370	2400	n/a	45	NE	No
Ensuite Bed 1	ALM-004-01 A	n/a	750	750	n/a	10	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	1200	n/a	45	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	1200	n/a	45	SE	Yes
Bedroom 2	ALM-004-01 A	n/a	750	1300	n/a	00	SE	No
Bedroom 2	ALM-004-01 A	n/a	1600	600	n/a	20	SE	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	90	NE	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	10	SE	No

# Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

No Data Available

### Roof window schedule

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

No Data Available

## Skylight type and performance

Skylight ID Skylight description

No Data Available

## Skylight schedule

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

\* Refer to glossary



### **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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	2600	NW	4100	YES
Bedroom 1	EW-1	2700	3600	NE	0	NO
Bedroom 1	EW-1	2700	4395	SE	0	NO
Ensuite Bed 1	EW-1	2700	1495	SE	0	NO
Ensuite Bed 1	EW-1	2700	2695	SW	0	YES
Kitchen/Living	EW-1	2700	2600	NW	4200	NO
Kitchen/Living	EW-1	2700	4095	NE	2600	YES
Kitchen/Living	EW-1	2700	2795	SE	2700	YES
Bedroom 2	EW-1	2700	2995	SE	0	NO
Bathroom	EW-1	2700	2700	NE	8700	NO
Bathroom	EW-1	2700	1595	SE	0	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		75.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		30.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	16.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 200mm	3.90 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	38.10 None	No Insulation	80/20 Carpet 10mm/Ceramic
Laundry	Concrete Slab, Unit Below 200mm	2.20 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	10.50 None	No Insulation	Carpet+Rubber Underlay 18mm



Location	Construction	Area Su (m) ve	ub-floor entilation	Added insulation (R-value)	Covering
Hallway	Concrete Slab, Unit Below 200mm	1.10 No	one	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	4.10 No	one	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	4.70 No	one	No Insulation	Carpet+Rubber Underlay 18mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Ensuite Bed 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No
Laundry	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom 2	Concrete, Plasterboard	Bulk Insulation R1.5	No
Hallway	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bathroom	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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

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### **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**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.			
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the			
Assessed 11001 area	design documents.			
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes			
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.			
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it			
Conditioned	will include garages.			
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.			
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.			
Estuana da an	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor			
Entrance door	in a Class 2 building.			
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).			
Smaarma aata nama amaa	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered			
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).			
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.			
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.			
Harden out all a landling of a strong	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper			
Horizontal shading feature	levels.			
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4			
(NCC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.			
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.			
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional			
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at			
	www.nathers.gov.au			
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.			
De of colordon.	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			
Roof window	generally does not have a diffuser.			
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.			
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.			
0.1.1.4.1. (0.1.00)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released			
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.			
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.			
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.			
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.			
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy			

Page 6 of 6

### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004975553

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 39, 608 High Street, Penrith, NSW,

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

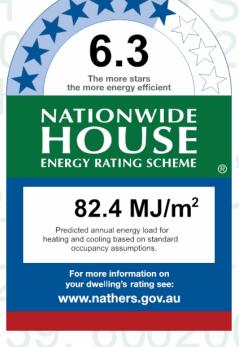
### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	58.0	Open
Unconditioned*	4.0	NatHERS climate zone
Total	62.0	28
Garage	0.0	



### Thermal performance

Heating Cooling 60.8  $MJ/m^2$ 

# accredited assessor

Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au Email

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

#### 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=LVmZQIVvd.

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

#### National Construction Code (NCC) requirements

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

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

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



### **Certificate check**

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WITIGOW ID	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
ALM-004-01 A	ALM-004-01 A Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62	

#### Custom\* windows

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

Document of the Street is glossary.

Document Set in 13-19-24-69 Aging BERS Pro v4.4.0.1 (3.21) for Unit 39, 608 High Street , Penrith , NSW , 2750

Documented on 12. 9/2489 95 ing BERS Pro Version: 1, Version Date: 11/08/2020



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-004-01 A	n/a	2400	2400	n/a	45	SW	No
Bathroom	ALM-004-01 A	n/a	750	750	n/a	10	SW	No
Dining	ALM-004-01 A	n/a	1370	2170	n/a	45	SE	No
Kitchen/Living	ALM-004-01 A	n/a	2400	3600	n/a	45	NE	No

# Roof window type and performance

Default\* roof windows

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

Custom\* roof windows

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

### Roof window schedule

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

No Data Available

### Skylight type and performance

Skylight ID Skylight description

No Data Available

# Skylight schedule

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

No Data Available

### External door schedule

Orientation Location Height (mm) Width (mm) Opening %

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	Bulk Insulation R1.5	No
EW-2	Tilt up Concrete	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	3795	SE	0	NO
Bedroom 1	EW-1	2700	3595	SW	2600	NO
Bathroom	EW-2	2700	1795	SW	2600	NO
Dining	EW-1	2700	3295	SE	4000	YES
Kitchen/Living	EW-2	2700	695	SW	10400	YES
Kitchen/Living	EW-1	2700	4000	NE	2300	YES
Kitchen/Living	EW-1	2700	5195	SE	0	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		40.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		42.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	13.30 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	4.50 None	No Insulation	Ceramic Tiles 8mm
Dining	Concrete Slab, Unit Below 200mm	9.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Entry/Hall	Concrete Slab, Unit Below 200mm	4.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	30.60 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bathroom	Concrete, Plasterboard	Bulk Insulation R1.5	No
Dining	Concrete, Plasterboard	Bulk Insulation R1.5	No
Entry/Hall	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No



# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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

Page 5 of 6



### **Explanatory notes**

#### About this report

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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.

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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 Nath—RS accredited software tool are presented in this report and further details or data files may be available from the assessor.

### **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the
Assessed 11001 area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chirmeys and flues. Excludes
Celling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it
Conditioned	will include garages.
Custom windows	windows listed in Nath-BS software that are available on the market in Australia and have a WBS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Estuana da an	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor
Entrance door	in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Smaarma aata nama amaa	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
Horizontal shading feature	levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHEPS software models NCC Class 1, 2 or 4
(NCC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
De of colordon.	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
Roof window	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
0.1.1.4.1. (0.1.00)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar heat gain coefficient (SHGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy

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### **Nationwide House Energy Rating Scheme** NatHERS Certificate No. 0004976395

Generated on 02 Jul 2020 using BERS Pro v4.4.0.1 (3.21)

### **Property**

**Address** Unit 41, 608 High Street, Penrith, NSW

2750

Lot/DP 153855

NCC Class\*

Type **New Dwelling** 

### **Plans**

Main Plan

Prepared by Building Environments Pty Ltd

### Construction and environment

Assessed floor are	Exposure Type	
Conditioned*	97.0	Open
Unconditioned*	0.0	NatHERS climate zone
Total	97.0	28
Garage	0.0	



Name **David Howard** 

**Business** name Partners Energy Management

david@partnersenergy.com.au **Email** 

**Phone** 0421381005

Accreditation No. 20039

**Assessor Accrediting Organisation** 

ABSA

**Declaration of interest** The Assessor has provided design

advice to the Applicant

# the more energy efficient 77.1 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

## Thermal performance

Heating Cooling 59.3  $MJ/m^2$ 

#### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate?

p=TVmwmHeri.

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

#### **National Construction Code (NCC) requirements**

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

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

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

Version: 1, Version Date: 11/08/2020



### Certificate check

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

#### Genuine certificate

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

#### Ceiling penetrations\*

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

#### Windows

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

#### Apartment entrance doors

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

#### Exposure\*

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

#### Provisional\* values

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

#### Additional notes

If carpet noted as floor covering it may be replaced with any type.

Due to non-current window library the glazing descriptions may not match actual products.

Only the U and SHGC values should be considered NOT the glazing description.

If downlights are used then they should be IC (Insulation Continuous) rated so that insulation may be laid over

the top of them and insulation does not have to have holes cut into it.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31130	SHGC lower limit	SHGC upper limit	
ATB-006-01 B	ATB-006-01 B Al Thermally Broken B DG Argon Fill Clear-Clear	3.5	0.64	0.61	0.67	

#### Custom\* windows

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

Documerated on 13. 1912(128) sping BERS Pro v4.4.0.1 (3.21) for Unit 41, 608 High Street , Penrith , NSW , 2750



### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ATB-006-01 B	n/a	1800	850	n/a	20	SE	No
Bedroom 1	ATB-006-01 B	n/a	1370	2170	n/a	45	SW	No
Bedroom 2	ATB-006-01 B	n/a	1370	2170	n/a	45	SW	No
Kitchen/Living	ATB-006-01 B	n/a	860	2650	n/a	45	NW	No
Kitchen/Living	ATB-006-01 B	n/a	2400	4300	n/a	45	SW	No

### Roof window type and performance

Default\* roof windows

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

#### Custom\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31100	SHGC lower limit	SHGC upper limit	
VEL-010-02 W	Glass	2.6	0.21	0.20	0.22	

### Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
Kitchen/Living	VEL-010-02 W	n/a	50	1200	1200	NE	No	No

# Skylight type and performance

Skylight ID	Skylight description
Skylight iD	Skylight description

No Data Available

# Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Ava	ailable							_

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Glazed Common A	2040	820	90	NE



# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Tilt up concrete, lined	0.30	Light	Bulk Insulation R1.5	No

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom 1	EW-1	2700	5795	SE	3000	NO
Bedroom 1	EW-1	2700	3495	SW	1900	NO
Bedroom 2	EW-1	2700	1100	NW	4900	YES
Bedroom 2	EW-1	2700	2995	SW	1900	NO
Ensuite Bed 1	EW-1	2700	1520	SE	3000	NO
Kitchen/Living	EW-1	2700	4400	NW	0	NO
Kitchen/Living	EW-1	2700	4895	SW	3000	YES

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		74.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		18.00	No Insulation

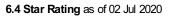
# Floor type

Location	Construction	Area Sub-floor (m²) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	19.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 200mm	12.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Bed 1	Concrete Slab, Unit Below 200mm	3.60 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	3.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Bathroom	Concrete Slab, Unit Below 200mm	3.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Laundry	Concrete Slab, Unit Below 200mm	2.10 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	51.30 None	No Insulation	80/20 Carpet 10mm/Ceramic

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom 2	Concrete, Plasterboard	Bulk Insulation R1.5	No
Ensuite Bed 1	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No

#### 0004976395 NatHERS Certificate





Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bathroom	Concrete, Plasterboard	Bulk Insulation R1.5	No
Laundry	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R1.5	No

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
Kitchen/Living	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

Page 5 of 6



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Ceiling penetrations	fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
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Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered
Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4
(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the Nath-RS Technical Note and can be found at
	www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for Nathers this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and
NOOI WIIIGOW	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
Solar fleat gain coefficient (ShGC)	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
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U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

Page 6 of 6