## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866315

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address

Unit 1.01, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

1A

5464

### Type

Lot/DP

New Dwelling

## Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

## Construction and environm

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	87.0
Unconditioned*	0.0
Total	87.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email Phone

Accreditation No.

20039

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

0421381005

**David Howard** 

Declaration completed: no conflicts

Partners Energy Management

david@partnersenergy.com.au

## ENERGY RATING SCHEME 60.8 MJ/m<sup>2</sup>

The more stars

the more energy efficient

NAT

IONWIDF

R

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
34.0	26.8
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=IMRGQgxHS. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit	

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No

\* Refer to glossary.

### 0004866315 NatHERS Certificate

### 5.4 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	1300	n/a	00	SE	No
Bedroom Master	ALM-001-01 A	n/a	2800	2100	n/a	45	SW	No
Ens	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Bedroom 2	ALM-001-01 A	n/a	2800	1300	n/a	00	SE	No
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Kitchen/Living	ALM-001-01 A	n/a	2800	4200	n/a	70	SW	No

## Roof window type and performance

### Default\* roof windows

Window ID	Window	Maximum	SUCC*	Substitution tolerance ranges		
window ID	Description U-value* SHGC*		SUGC	SHGC lower limit	SHGC upper limit	
No Data Availat	ble					
Custom* roof w	vindows					
Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges	
WINDOWID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	

## 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 Av	vailable						
Skylig	ht sched	lule					
	Skylight	Skylight	Skylight	Area	Outdoor	-	Skylight shaft

Location	ID	No.	shaft length (mm)	(m <sup>2</sup> )	Orientation	shade	Diffuser	reflectance	_
No Data Av	ailable								
Extern	al door	schedule							

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



## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3095	SE	0	NO
Bedroom Master	EW-1	2800	3300	SW	725	NO
Bedroom Master	EW-1	2800	1200	NW	8700	YES
Ens	EW-1	2800	3690	SE	0	NO
Bedroom 2	EW-1	2800	3545	SE	0	NO
Kitchen/Living	EW-1	2800	6195	SW	1975	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		73.00	No insulation
IW-2 - Concrete Panel/Blocks filled, multi plaster layers		28.00	No Insulation
IW-3 - Concrete Panel/Blocks filled, plasterboard		24.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Bedroom Master	Concrete Slab, Unit Below 150mm	10.00 None	No Insulation	Carpet+Rubber Underlay 18mm
Ens	Concrete Slab, Unit Below 150mm	5.60 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	11.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath/Ldry	Concrete Slab, Unit Below 150mm	8.00 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	48.50 None	No Insulation	Cork Tiles or Parquetry 8mm
WIR	Concrete Slab, Unit Below 150mm	4.20 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 Master	Concrete, Plasterboard	Bulk Insulation R1.5	No
Ens	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bath/Ldry	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No

Location	Construction material/type Concrete, Plasterboard			Bulk insulation R-value (may include edge batt		Reflective wrap*
WIR				No insulation	No	
Ceiling penet	rations*					
Location	Quantity	Туре		Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available						
Ceiling fans						
Location		G	Quantity		Diameter (mm)	
No Data Available						

## Roof type

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



### **Explanatory notes**

#### About this report

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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.
Account 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 floor area	design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including dow nlights, 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).
-	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmand 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 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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
<b>Reflective wrap</b> (also know n 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
Rooi Willdow	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 hast goin coofficiant (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 know n 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.
Vortical chading factures	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866356

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address

Unit 1.02, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

## Construction and environm

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	108.0
Unconditioned*	0.0
Total	108.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

# ccredited assessor

Name **Business name** Email Phone

**David Howard** Partners Energy Management david@partnersenergy.com.au 0421381005

20039

Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts

# The more stars the more energy efficient IONWIDE NAT

ENERGY RATING SCHEME

## 49.8 MJ/m<sup>2</sup>

R

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
20.6	29.1
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

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### National Construction Code (NCC) requirements

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### **Certificate check**

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#### Ceiling penetrations\*

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

### Windows

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

#### 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.

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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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
WINDOWID	Description	U-value*	3160	SHGC lower limit	SHGC upper limit		
No Data Availat	ole						



## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	1800	n/a	00	SW	No
Bedroom Master	ALM-002-01 A	n/a	2700	600	n/a	90	SW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	3600	n/a	45	SW	No
Bedroom 2	ALM-001-01 A	n/a	2800	1800	n/a	00	SW	No
Bedroom 2	ALM-002-01 A	n/a	2700	600	n/a	90	SW	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SURC	SHGC lower limit	SHGC upper limit	
No Data Availa	ole					
Custom* roof v	vindows					
Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges	
	Description	U-value*	SHGC			
	Description	U-value"		SHGC lower limit	SHGC upper limit	

## 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 No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Ava	No Data Available							
External door schedule								
Location		Height (m	m)	Width (r	nm)	Opening %	Or	ientation

No Data Available



## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3595	SW	1100	NO
Bedroom Master	EW-1	2800	700	SE	0	NO
Kitchen/Living	EW-1	2800	4795	SW	1300	YES
Bedroom 2	EW-1	2800	3295	SW	1100	NO
Bedroom 2	EW-1	2800	1400	NW	7100	YES

## Internal wall type

Wall ID	Wall type	<b>Area</b> (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		77.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		51.00	No Insulation
W-3 - Concrete Panel/Blocks filled, multi plaster layers		37.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Bedroom Master	Concrete Slab, Unit Below 150mm	25.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Ens	Concrete Slab, Unit Below 150mm	6.30 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	52.40 None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	12.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Ldry	Concrete Slab, Unit Below 150mm	1.80 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 150mm	9.20 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

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



## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	,	Added insulation (R-val	ue)	Solar absorptance	Roof shade
Waterproofing Membrane	9	No Insulation, Only an Air	Gap	0.50	Medium



### **Explanatory notes**

#### About this report

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Ceiling penetrations	features that require a penetration to the ceiling, including dow nlights, 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 10m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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
	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 heat gain coemcient (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).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866380

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address

Unit 1.03, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

## Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	85.0
Unconditioned*	0.0
Total	85.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email Phone

Accreditation No.

Partners Energy Management

**David Howard** 

david@partnersenergy.com.au

0421381005

20039

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts

## The more stars the more energy efficient IONWIDE

ENERGY RATING SCHEME

## 55.3 MJ/m<sup>2</sup>

R

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
27.1	28.1
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=qcKQaBDAj. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum SHGC*		Substitution tolerance ranges			
	Description	U-value*	3160	SHGC lower limit SHGC upper limit			
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60		

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3600	SHGC lower limit	SHGC upper limit	

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	1800	n/a	00	SW	No

\* Refer to glossary.

### 0004866380 NatHERS Certificate

### 5.7 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	SW	No
Bedroom Master	ALM-001-01 A	n/a	2800	2000	n/a	30	NW	No
Bedroom 2	ALM-001-01 A	n/a	2800	1300	n/a	00	NW	No
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	4600	n/a	65	SW	No
Ens	ALM-001-01 A	n/a	2800	600	n/a	90	NW	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 Availat	ble					
Custom* roof w	vindows					
Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges	
window ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	

## Roof window schedule

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

## Skylight type and performance

Skylight ID			Skylight o	description		
No Data Ava	ailable					
Skyligh	nt sched	lule				
		Clard's slot	Skylight	A	Outdaan	Charlingh also

Location	ID	Skylight No.	shaft length (mm)	Area Orientat (m²)	on Shade	Diffuser	reflectance	
No Data Av	ailable							
Extern	al 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	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes
EW-2	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	1700	SE	8400	YES
Bedroom Master	EW-1	2800	3600	SW	800	NO
Bedroom Master	EW-1	2800	2995	NW	0	NO
Bedroom 2	EW-1	2800	3695	NW	0	NO
Kitchen/Living	EW-1	2800	5795	SW	2500	YES
Ens	EW-2	2800	3690	NW	0	NO

## Internal wall type

Wall ID	Wall type	<b>Area</b> (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		68.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		43.00	No Insulation
IW-3 - Brick, plasterboard		3.00	No Insulation
IW-4 - Concrete Panel/Blocks filled, multi plaster layers		4.00	No Insulation

## Floor type

Location	Construction	Area Sub-floo (m²) ventilatio		Covering
Bedroom Master	Concrete Slab, Unit Below 150mm	15.00 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 150mm	10.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath/ldry	Concrete Slab, Unit Below 150mm	9.00 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	43.60 None	No Insulation	Cork Tiles or Parquetry 8mm
Ens	Concrete Slab, Unit Below 150mm	6.30 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 Master	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bath/ldry	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No

0004866380 NatHERS Cer	tificate	5.7 Star Rating	g as of 26 May 2020		HOUVE
Location	Constructi material/ty	•	Bulk insulation R-valu (may include edge bat	•	Reflective wrap*
Ens	Concrete, F	Plasterboard	Bulk Insulation R1.5		No
Ceiling penetro	ations*				
Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quar	ntity	Diameter (mm)	
No Data Available					
Roof type					
Construction		Added insulatio	n (R-value)	Solar absorptance	Roof shade

0.50

Medium

No Insulation, Only an Air Gap

Waterproofing Membrane



### **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 softw are and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

### Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Account 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 floor area	design documents.
Colling popotrotions	features that require a penetration to the ceiling, including dow nlights, 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, farmand 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 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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
<b>Reflective wrap</b> (also know n 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
Rooi Willdow	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 boot goin coofficient (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 know n 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.
Vortical chading fosturas	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866406

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address

Unit 1.04, 25-27 Warriewood rd Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

Plans Main Plan

Prepared by

Warriewood Residential Development VIA Architects

## Construction and environn

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	90.0
Unconditioned*	0.0
Total	90.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email Phone

Accreditation No.

david@partnersenergy.com.au 0421381005

20039

**David Howard** 

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Partners Energy Management

Declaration completed: no conflicts

### The more stars the more energy efficient IONWIDF NAT ENERGY RATING SCHEME

# 33.9 MJ/m<sup>2</sup>

R

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
7.0	26.9
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=dugKZxFrR. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3600	SHGC lower limit	SHGC upper limit

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	1000	n/a	00	NW	No

\* Refer to glossary.

0004866406 NatHERS Certificate

### 7.4 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2700	900	n/a	00	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	3200	n/a	65	NE	No
Bedroom 2	ALM-001-01 A	n/a	2800	1300	n/a	00	NE	No
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	NE	No

## Roof window type and performance

### Default\* roof windows

Window ID	Windo	w	Maxin		SHGC*	Sub	ostitution tol	erance ranges
window iD	Desci	ription	U-val	ue*	SHGC	SHGC lo	ower limit	SHGC upper limit
No Data Ava	ailable							
Custom* ro	of windows							
Window ID	Windo		Maxin		SHGC*	Sub	ostitution tol	erance ranges
	Desci	ription	U-val	ue^		SHGC lo	ower limit	SHGC upper limit
No Data Ava	ailable							
Roof w	<b>indow</b> s	chedule						
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdo shade	
						_		
Skyligl	nt type a	nd perforn	nance Skylight des	scription		_		
Skyligl	nt type a	nd perforn		scription				
Skyligi Skylight ID No Data Ava	nt type a	·		scription				
Skylight ID	<b>nt</b> type a	·		Aroa	ntation	Outdoor shade	Diffuser	Skylight shaft reflectance
Skylight ID Skylight ID No Data Ava Skyligh Location	nt type an ailable nt schedu Skylight ID	U/C Skylight	Skylight des Skylight shaft length	Area Orio	ntation		Diffuser	
Skylight ID Skylight ID No Data Ava Skyligh Location	nt type an ailable nt schedu Skylight ID	Ule Skylight No.	Skylight des Skylight shaft length	Area Orio	ntation		Diffuser	



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

No Data Available

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3795	NW	0	NO
Kitchen/Living	EW-1	2800	9195	NW	0	NO
Kitchen/Living	EW-1	2800	3995	NE	1900	NO
Bedroom 2	EW-1	2800	3095	NE	1900	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		40.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		67.00	No insulation
IW-3 - Concrete Panel/Blocks filled, multi plaster layers		16.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilatio	Added insulation n (R-value)	Covering
Ens	Concrete Slab, Unit Below 150mm	4.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom Master	Concrete Slab, Unit Below 150mm	14.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	52.50 None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	11.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 150mm	5.60 None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab, Unit Below 150mm	0.70 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

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



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

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	P	Added insulation (R-value	ue)	Solar absorptance	Roof shade
Waterproofing Membrane	Ν	lo Insulation, Only an Air	Gap	0.50	Medium



### **Explanatory notes**

#### About this report

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

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

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

#### Accredited assessors

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

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

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

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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.

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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.				
, and a onergy roug	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.				
O liter and the first	features that require a penetration to the ceiling, including dow nlights, 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.				
	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 10m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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 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.				
Color hast usin as officiant (CLCC)	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 know n 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 shading features	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).				

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866422

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address

Unit 1.05, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

## Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	63.0
Unconditioned*	0.0
Total	63.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email Phone

Accreditation No.

**Declaration of interest** 

David Howard

Partners Energy Management david@partnersenergy.com.au

0421381005

20039

Assessor Accrediting Organisation

ABSA

Declaration completed: no conflicts

### The more stars the more energy efficient IONWIDF NAT ENERGY RATING SCHEME

## 34.7 MJ/m<sup>2</sup>

R

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
5.5	29.2
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=oGkthPCFk. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum U-value*	SHGC*	Substitution tolerance ranges	
	Description		SHGC	SHGC lower limit	SHGC upper limit
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54
Custom* windov	VS				
Mar dam ID	Window	Maximum	0100*	Substitution to	lerance ranges

**U-value\*** 

SHGC\*

SHGC lower limit

No Data Available

Window ID

### Window and glazed door schedule

Description

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-003-01 A	n/a	2800	1500	n/a	00	NE	No

\* Refer to glossary.

SHGC upper limit

0004866422 NatHERS	Certificate
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#### 7.4 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-003-01 A	n/a	2700	600	n/a	90	NE	No
Kitchen/Living	ALM-003-01 A	n/a	1000	5000	n/a	45	NE	No
Kitchen/Living	ALM-003-01 A	n/a	1700	5000	n/a	45	NE	Yes

## Roof window type and performance

### Default\* roof windows

Window ID	dow ID Window Maximum SHGC*	Substitution to	lerance ranges		
	Description	U-value*	SURC	SHGC lower limit	SHGC upper limit
No Data Availat	ble				
Custom* roof w	vindows				
Window ID Window		Maximum	SHGC*	Substitution tolerance ranges	
	Description U-value*		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)	<b>Are</b> a (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								
Extern	al door	schedule						

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

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*



Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## 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	2800	1500	NW	6800	YES
Bedroom 1	EW-1	2800	3000	NE	0	NO
Ldry	EW-1	2800	795	SW	8300	YES
Kitchen/Living	EW-1	2800	5095	NE	1500	YES

## Internal wall type

Wall ID	Wall type	<b>Ar</b> ea (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		68.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		34.00	No insulation

## Floor type

Location	Construction	Area Sub-floo (m²) ventilatio		Covering
Bedroom 1	Concrete Slab, Unit Below 150mm	13.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Ldry	Concrete Slab, Unit Below 150mm	0.90 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 150mm	5.10 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	43.90 None	No Insulation	Cork Tiles or Parquetry 8mm

## Ceiling type

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

## **Ceiling** penetrations\*

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

7.4 Star Rating as of 26 May 2020



## **Ceiling** fans

Location	Quantity	Diameter (mm)
No Data Available		
Roof type		

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.3	0.50	Medium
Waterproofing Membrane	No Insulation, Only an Air Gap	0.50	Medium

\* Refer to glossary. Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21) for Unit 1.05, 25-27 Warriewood rd , Warriewood , NSW , 2102



### **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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### 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 dow nlights, 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 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 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 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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 generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also know n 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).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866471

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address

Unit 1.06, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

Type

Lot/DP

1A

New Dwelling

5464

# Plans

Main Plan

Prepared by

Warriewood Residential Development VIA Architects

## Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	66.0
Conditioned	66.0
Unconditioned*	0.0
Total	66.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email Phone

Accreditation No.

**Declaration of interest** 

**David Howard** 

Partners Energy Management david@partnersenergy.com.au

0421381005

20039

Assessor Accrediting Organisation

ABSA

Declaration completed: no conflicts



# ENERGY RATING SCHEME

R

## 20.3 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 4	Coolin
5.1	15.2
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=nekepNjQI. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60

### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value*	3000	SHGC lower limit	SHGC upper limit	

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	n/a	2800	1200	n/a	00	NE	No

\* Refer to glossary.

0004866471 NatHERS Certificate

#### 8.4 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	n/a	2700	600	n/a	90	NE	No
Kitchen/Living	ALM-001-01 A	n/a	1000	600	n/a	90	NE	No
Kitchen/Living	ALM-001-01 A	n/a	1000	1800	n/a	00	NE	No
Kitchen/Living	ALM-001-01 A	n/a	1700	600	n/a	90	NE	Yes
Kitchen/Living	ALM-001-01 A	n/a	1700	1800	n/a	00	NE	Yes
Kitchen/Living	ALM-001-01 A	n/a	2700	900	n/a	90	SE	No
Kitchen/Living	ALM-001-01 A	n/a	2700	300	n/a	90	SE	No

## Roof window type and performance

### Default\* roof windows

Mindow	Windov	v	Maximum U-value*		SHCC*	Substitution tolerance ranges			
Window ID	Descrip	otion			SHGC*	SHGC low	er limit	SHGC upper limit	
No Data Avail	lable								
Custom* roof	fwindows								
Window ID	Windov	v	Maxim	um	SHGC*	Substitution f		olerance ranges	
	Description		U-value*		SHGC	SHGC lower limit		SHGC upper limit	
No Data Avail	lable								
Roof wi	ndow so	hedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdo shade	or Indoor shade	
No Data Avail	lable								

## Skylight type and performance

Skylight ID			Skylight d	escripti	on			
No Data Av	ailable							
Skylig	ht sched	lule						
Location	Skylight	Skylight	Skylight	Area	Orientation	Outdoor	Diffuser	Skylight shaft

#### shaft length Diffuser Location Orientation ID 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	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes
EW-2	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## 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	2800	3095	NE	1400	YES
Kitchen/Living	EW-2	2800	3400	NE	0	NO
Kitchen/Living	EW-2	2800	2000	SE	9400	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		87.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		40.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilatio		Covering
Bedroom 1	Concrete Slab, Unit Below 150mm	15.30 None	No Insulation	Carpet+Rubber Underlay 18mm
Ldry	Concrete Slab, Unit Below 150mm	0.80 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 150mm	7.60 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	42.60 None	No Insulation	Cork Tiles or Parquetry 8mm

## Ceiling type

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

## **Ceiling** penetrations\*

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



## **Ceiling** fans

Location	Quantity	Quantity Diameter (mm)		
No Data Available				
Roof type				
Construction	Added insulation (R-value)	Solar absorptance	Roof shade	
Waterproofing Membrane	No Insulation, Only an Air Gap	0.50	Medium	



### **Explanatory notes**

#### About this report

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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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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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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 generally does not have a diffuser.					
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.					
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.					
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.					
Skylight (also know n 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).					

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866505

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Lot/DP

Unit 1.07, 25-27 Warriewood rd , Warriewood , NSW , 2102

NCC Class\*

1A

5464

### Туре

New Dwelling

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### **Construction and environment**

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	110.0
Unconditioned*	0.0
Total	110.0
Garage	0.0

Exposure Type Suburban NatHERS climate zone

## Accredited assessor

Name Business name Email

Partners Energy Management david@partnersenergy.com.au 0421381005

**David Howard** 

20039

Accreditation No.

Assessor Accrediting Organisation

ABSA

Phone

**Declaration of interest** 

Declaration completed: no conflicts

### The more stars the more energy efficient **NATIONWIDE HOUSE** ENERGY RATING SCHEME

## 49.7 MJ/m<sup>2</sup>

R

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
33.6	16.1
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=xKQQUMKoF. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3600	SHGC lower limit	SHGC upper limit

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2800	4000	n/a	65	NE	No

\* Refer to glossary.

0004866505 NatHERS Certificate

#### 6.2 Star Rating as of 26 May 2020



Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
ALM-001-01 A	n/a	2800	1400	n/a	00	SE	No
ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
ALM-001-01 A	n/a	2800	4400	n/a	45	NE	No
ALM-001-01 A	n/a	2800	1500	n/a	00	SE	No
ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
ALM-001-01 A	n/a	2800	1300	n/a	00	SE	No
ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
	ID ALM-001-01 A ALM-001-01 A ALM-001-01 A ALM-001-01 A ALM-001-01 A ALM-001-01 A	ID         no.           ALM-001-01 A         n/a           ALM-001-01 A         n/a	ID         no.         (mm)           ALM-001-01 A         n/a         2800           ALM-001-01 A         n/a         2800	ID         no.         (mm)         (mm)           ALM-001-01 A         n/a         2800         1400           ALM-001-01 A         n/a         2800         600           ALM-001-01 A         n/a         2800         1500           ALM-001-01 A         n/a         2800         600           ALM-001-01 A         n/a         2800         1500           ALM-001-01 A         n/a         2800         600	ID         no.         (mm)         (mm)         type           ALM-001-01 A         n/a         2800         1400         n/a           ALM-001-01 A         n/a         2800         600         n/a           ALM-001-01 A         n/a         2800         600         n/a           ALM-001-01 A         n/a         2800         600         n/a           ALM-001-01 A         n/a         2800         100         n/a           ALM-001-01 A         n/a         2800         600         n/a           ALM-001-01 A         n/a         2800         1500         n/a           ALM-001-01 A         n/a         2800         1500         n/a           ALM-001-01 A         n/a         2800         1300         n/a	ID         no.         (mm)         (mm)         type         %           ALM-001-01 A         n/a         2800         1400         n/a         00           ALM-001-01 A         n/a         2800         600         n/a         90           ALM-001-01 A         n/a         2800         1500         n/a         90           ALM-001-01 A         n/a         2800         1500         n/a         90           ALM-001-01 A         n/a         2800         1500         n/a         90           ALM-001-01 A         n/a         2800         1300         n/a         00	ID         no.         (mm)         (mm)         type         %         Orientation           ALM-001-01 A         n/a         2800         1400         n/a         00         SE           ALM-001-01 A         n/a         2800         600         n/a         90         SE           ALM-001-01 A         n/a         2800         1500         n/a         90         SE           ALM-001-01 A         n/a         2800         1500         n/a         90         SE           ALM-001-01 A         n/a         2800         1300         n/a         90         SE           ALM-001-01 A         n/a         2800         1300         n/a         00         SE

## Roof window type and performance

#### Default\* roof windows

Window ID	ID Window Maximum SHG		SUCC*	Sub	ubstitution tolerance ranges				
window iD	Desc	ription	U-val	U-value* SH		SHGC lower limit		it SHGC upper limit	
No Data Av	ailable								
Custom* rc	of windows								
Window ID	Wind	•	Maxin		SHGC*	Sub	ostitution to	lerance ranges	
	Desc	ription	U-val	ue*		SHGC I	ower limit	SHGC upper limi	
No Data Av	ailable								
Roof w	vindow s	schedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outd shade		
		nd perforr	mance			_			
Skylig	h <b>t</b> type a	nd perforr	Mance Skylight de	scription		_			
Skylight ID	ht type a	nd perforr		scription		_			
<b>Skyligl</b> Skylight ID No Data Av	ht type a	·		scription		_			
Skylight ID Skylight ID No Data Av Skyligl	ht type a	·		Δrea	ntation	Outdoor shade	Diffuser	Skylight shaft reflectance	
Skylight ID Skylight ID No Data Av Skyligh Location	ht type a ailable ht sched Skylight ID	Ule Skylight	Skylight de Skylight shaft length	Area Orio	ntation		Diffuser		
Skylight ID No Data Av Skyligi Location No Data Av	ht type a ailable ht sched Skylight ID ailable	Ule Skylight	Skylight de Skylight shaft length	Area Orio	ntation		Diffuser		

\* Refer to glossary. Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21) for Unit 1.07, 25-27 Warriew ood rd , Warriew ood , NSW , 2102



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

No Data Available

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## 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	2800	5595	NE	3300	YES
Kitchen/Living	EW-1	2800	3090	SE	0	YES
Ens	EW-1	2800	3031	SE	25	YES
Bedroom Master	EW-1	2800	1600	NW	9400	YES
Bedroom Master	EW-1	2800	5200	NE	1700	NO
Bedroom Master	EW-1	2800	3368	SE	25	YES
Bedroom 2	EW-1	2800	3045	SE	0	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, multi plaster layers		55.00	No Insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		5.00	No Insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		90.00	No insulation

## Floor type

Location	Construction		ub-floor entilation	Added insulation (R-value)	Covering
Bath 1	Concrete Slab, Unit Below 150mm	7.10 No	one	No Insulation	Ceramic Tiles 8mm
Store/Idry	Concrete Slab, Unit Below 150mm	6.80 No	one	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	56.60 No	one	No Insulation	Cork Tiles or Parquetry 8mm
Ens	Concrete Slab, Unit Below 150mm	7.30 No	one	No Insulation	Ceramic Tiles 8mm
Bedroom Master	Concrete Slab, Unit Below 150mm	20.60 No	one	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 150mm	11.90 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*
Bath 1	Concrete, Plasterboard	No insulation	No

6.2 Star Rating as of 26 May 2020



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

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction		Added insulation (R-val	ue)	Solar absorptance	Roof shade
Waterproofing Membrane		No Insulation, Only an Air	Gap	0.50	Medium



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Exposure category – open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
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Online has at main and filling at (OLIOO)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
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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 abading factures	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866539

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Lot/DP

Unit 1.08, 25-27 Warriewood rd , Warriewood , NSW , 2102

NCC Class\*

Туре

1A

5464

New Dwelling

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### **Construction and environment**

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	102.0
Unconditioned*	0.0
Total	102.0
Garage	0.0

Exposure Type Suburban NatHERS climate zone

## Accredited assessor

Name Business name Email David Howard Partners Energy Management david@partnersenergy.com.au 0421381005 20039

Accreditation No.

Assessor Accrediting Organisation

ABSA

Phone

**Declaration of interest** 

Declaration completed: no conflicts



## 31.6 MJ/m<sup>2</sup>

R

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
4.9	26.6
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=xykZFWnst. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges		
WINCOW ID	Description	U-value*	31160	SHGC lower limit	SHGC upper limit		
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54		
Custom* windows							

Window ID	Window Maximum		SHGC*	Substitution to	lerance ranges
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-003-01 A	n/a	2800	1200	n/a	00	NW	No

\* Refer to glossary.

0004866539 NatHERS Certificate

#### 7.6 Star Rating as of 26 May 2020



Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
ALM-003-01 A	n/a	2800	600	n/a	90	NW	No
ALM-003-01 A	n/a	2800	5400	n/a	45	NE	No
ALM-003-01 A	n/a	2800	1200	n/a	00	NW	No
ALM-003-01 A	n/a	2800	600	n/a	90	NW	No
ALM-003-01 A	n/a	2800	1500	n/a	00	NE	No
ALM-003-01 A	n/a	2800	600	n/a	90	NE	No
ALM-003-01 A	n/a	2800	900	n/a	00	NW	No
ALM-003-01 A	n/a	2800	600	n/a	90	NW	No
	ID ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A	ID         no.           ALM-003-01 A         n/a           ALM-003-01 A         n/a	ID         no.         (mm)           ALM-003-01 A         n/a         2800           ALM-003-01 A         n/a         2800	ID         no.         (mm)         (mm)           ALM-003-01 A         n/a         2800         600           ALM-003-01 A         n/a         2800         5400           ALM-003-01 A         n/a         2800         1200           ALM-003-01 A         n/a         2800         600           ALM-003-01 A         n/a         2800         1200           ALM-003-01 A         n/a         2800         600           ALM-003-01 A         n/a         2800         600           ALM-003-01 A         n/a         2800         900           ALM-003-01 A         n/a         2800         900	ID         no.         (mm)         (mm)         type           ALM-003-01 A         n/a         2800         600         n/a           ALM-003-01 A         n/a         2800         5400         n/a           ALM-003-01 A         n/a         2800         5400         n/a           ALM-003-01 A         n/a         2800         600         n/a           ALM-003-01 A         n/a         2800         900         n/a           ALM-003-01 A         n/a         2800         900         n/a           ALM-003-01 A         n/a         2800         900         n/a	ID         no.         (mm)         (mm)         type         %           ALM-003-01 A         n/a         2800         600         n/a         90           ALM-003-01 A         n/a         2800         5400         n/a         45           ALM-003-01 A         n/a         2800         1200         n/a         00           ALM-003-01 A         n/a         2800         1200         n/a         00           ALM-003-01 A         n/a         2800         600         n/a         90           ALM-003-01 A         n/a         2800         600         n/a         90           ALM-003-01 A         n/a         2800         600         n/a         90           ALM-003-01 A         n/a         2800         900         n/a         00           ALM-003-01 A         n/a         2800         900         n/a         00	ID         no.         (mm)         (mm)         type         %         Other tation           ALM-003-01 A         n/a         2800         600         n/a         90         NW           ALM-003-01 A         n/a         2800         5400         n/a         45         NE           ALM-003-01 A         n/a         2800         5400         n/a         00         NW           ALM-003-01 A         n/a         2800         1200         n/a         00         NW           ALM-003-01 A         n/a         2800         600         n/a         90         NW           ALM-003-01 A         n/a         2800         600         n/a         90         NE           ALM-003-01 A         n/a         2800         1500         n/a         90         NE           ALM-003-01 A         n/a         2800         600         n/a         90         NE           ALM-003-01 A         n/a         2800         900         n/a         00         NW

## Roof window type and performance

#### Default\* roof windows

Window ID	Winde		Maximum SHGC*		Substitution tolerance ranges			
window iD	Desc	ription			3000	SHGC I	ower limit	SHGC upper limi
No Data Av	ailable							
Custom* rc	of windows							
Window ID	Wind		Maxin		SHGC*			lerance ranges
		ription	U-val	ue		SHGC I	ower limit	SHGC upper limi
No Data Av	ailable							
Roof w	vindow अ	schedule						
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outd shade	
		nd perforr	mance			_		
Skylig	h <b>t</b> type a	nd perforr	Mance Skylight de	scription		_		
<b>Skylig</b> l Skylight ID	ht type a	nd perforr		scription		_		
<b>Skylig</b> Skylight ID No Data Av	ht type a	-		scription		_		
Skylight ID Skylight ID No Data Av Skyligh	ht type a	-		Area	ntation	Outdoor shade	Diffuser	Skylight shaft reflectance
Skylight ID Skylight ID No Data Av Skylig Location	ht type a ailable ht scheda Skylight ID	Ule Skylight	Skylight des Skylight shaft length	Area Orior	ntation		Diffuser	Skylight shaft reflectance
Skylight ID No Data Av Skylig Location No Data Av	ht type a ailable ht sched Skylight ID ailable	Ule Skylight	Skylight des Skylight shaft length	Area Orior	ntation		Diffuser	Skylight shaft reflectance

\* Refer to glossary. Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21) for Unit 1.08, 25-27 Warriew ood rd , Warriew ood , NSW , 2102



Location	Height (mm)	Width (mm)	Opening %	Orientation
Na Data Available				

No Data Available

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## 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	2800	3148	NW	0	NO
Kitchen/Living	EW-1	2800	6095	NE	2300	YES
Bedroom Master	EW-1	2800	4595	NW	0	NO
Bedroom Master	EW-1	2800	2995	NE	800	YES
Ens	EW-1	2800	1700	NE	400	NO
Ens	EW-1	2800	1900	SE	8700	YES
Ens	EW-1	2800	400	NW	3000	YES
Bedroom 2	EW-1	2800	3221	NW	0	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		56.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		69.00	No insulation

## Floor type

Location	Construction	Area Sub-floo (m <sup>2</sup> ) ventilati		Covering
Bath	Concrete Slab, Unit Below 150mm	8.50 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	60.20 None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom Master	Concrete Slab, Unit Below 150mm	16.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Ens	Concrete Slab, Unit Below 150mm	4.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	11.40 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

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



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom Master	Concrete, Plasterboard	Bulk Insulation R1.5	No
Ens	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom 2	Concrete, Plasterboard	No insulation	No

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quanti	ty	Diameter (mm)	
No Data Available					
Roof type					
Construction	A	dded insulation (	R-value)	Solar absorptance	Roof shade
Waterproofing Membrane	Ν	lo Insulation, Only	an Air Gap	0.50	Medium



### **Explanatory notes**

#### About this report

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

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

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

#### Accredited assessors

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

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

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

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

#### Disclaimer

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

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

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

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

### Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.				
, and a onergy roug	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.				
O liter and the first	features that require a penetration to the ceiling, including dow nlights, 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.				
	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 10m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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 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.				
Color hast usin as officiant (CLCC)	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 know n 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 shaung leatures	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).				

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866554

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Unit 1.09, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### Construction and environm

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	85.0
Unconditioned*	0.0
Total	85.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** 

Email

Phone

Accreditation No.

ABSA

**Declaration of interest** 

David Howard Partners Energy Management

david@partnersenergy.com.au

0421381005

20039

Assessor Accrediting Organisation

Declaration completed: no conflicts

## The more stars the more energy efficient IONWIDE

ENERGY RATING SCHEME

## 35.4 MJ/m<sup>2</sup>

R

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
6.2	29.3
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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## Verification

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p=MWIBDwJgs. 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.

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### **Certificate check**

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#### Ceiling penetrations\*

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

#### Windows

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

#### 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window Description	Maximum SHGC*	Substitution tolerance ranges			
		U-value*	51100	SHGC lower limit SHGC upper limit		
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	

#### Custom\* windows

Window ID	Window Description	Maximum	SHGC*	lerance ranges
		U-value*		SHGC lower limit

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Bedroom Master	ALM-001-01 A	n/a	2800	3000	n/a	45	NE	No	

\* Refer to glossary.

000486655	4 NatHERS Certi	ficate	7.3 Star Rating	as of 26 N	lay 2020				HOUSE
Location	W IC	findow )	Window no.	Height (mm)	Width (mm)	Window type	o Opening %	Orienta	Window ation shading device*
Kitchen/Li	iving Al	_M-001-01 A	n/a	2800	5200	n/a	45	NE	No
Roof	window t	ype and p	erformand	e					
Default* r	oof windows								
Window I	D Wind Desc	ow ription		ximum value*		SHGC*	Subs SHGC lov		lerance ranges SHGC upper limi
No Data A	Available								
Custom*	roof windows								
Window I	D Wind	ow ription		ximum value*		SHGC*			lerance ranges
No Data A			0-	Talue			SHGC lov	ver limit	SHGC upper limi
Location	ID	Window no.	Opening %	-	eight mm)	Width (mm)	Orientation	Outdo shade	
		nd perform	nance				-		
Skylight	ID		Skylight	descripti	on				
No Data A	Available								
Skylig	ght sched	ule							
Location	Skylight	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient	ation	Outdoor [ shade	Diffuser	Skylight shaft reflectance
No Data A	Available						-		
Exteri	nal door	schedule							
Location		Height (mr	n)	Width	( <b>mm)</b>		Opening %	Orie	ntation
No Data A	Available								
	nal wall t	ype							
Exteri									
Wall	Wall type	Solar absorpta	Wall sha nce (colour)		Bulk ins (R-value				Reflective wall wrap*

\* Refer to glossary. Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21) for Unit 1.09, 25-27 Warriew ood rd , Warriew ood , NSW, 2102



### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	1200	NW	5000	NO
Bedroom Master	EW-1	2800	3600	NE	1525	NO
Kitchen/Living	EW-1	2800	6895	NE	1550	NO
Kitchen/Living	EW-1	2800	900	SE	2900	NO

## Internal wall type

Wall ID	Wall type	<b>Area</b> (m <sup>2</sup> )	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		78.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		37.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Bath/ldry	Concrete Slab, Unit Below 150mm	11.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom Master	Concrete Slab, Unit Below 150mm	15.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	57.50 None	No Insulation	Cork Tiles or Parquetry 8mm

## Ceiling type

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

## **Ceiling** penetrations\*

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



## Roof type

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



### **Explanatory notes**

#### About this report

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

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

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

#### Accredited assessors

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

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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 softw are and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

### Glossary

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.				
Colling popotrotions	features that require a penetration to the ceiling, including dow nlights, 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 10m e.g. suburban housing, heavily vegetated bushland areas.				
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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.				
Color hast usin coefficient (CLICC)	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 know n 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.				
Vortical chading factures	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).				

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866570

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Unit 1.10, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

5464

### New Dwelling

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	92.0
Unconditioned*	0.0
Total	92.0
Garage	0.0
•	

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email

Phone

Accreditation No.

**David Howard** 

Partners Energy Management david@partnersenergy.com.au

0421381005

20039

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts



## 33.6 MJ/m<sup>2</sup>

R

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
5.3	28.2
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=mcPXmcIFX. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31160	SHGC lower limit	SHGC upper limit	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54	
Custom* windows						

Window ID Budget SHGC*	n tolerance ranges
Description U-value* SHGC lower lin	t SHGC upper limit

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-003-01 A	n/a	2800	900	n/a	00	NE	No

\* Refer to glossary.

#### 0004866570 NatHERS Certificate

#### 7.4 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-003-01 A	n/a	2700	600	n/a	90	NE	No
Bedroom 1	ALM-003-01 A	n/a	2700	600	n/a	90	SE	No
Bedroom 1	ALM-003-01 A	n/a	2800	1200	n/a	00	SE	No
Bedroom 2	ALM-003-01 A	n/a	2800	1200	n/a	00	SE	No
Bedroom 2	ALM-003-01 A	n/a	2700	600	n/a	90	SE	No
Kitchen/Living	ALM-003-01 A	n/a	2800	5200	n/a	65	NE	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window Maximun		Maximum SHGC*		lerance ranges
	Description	U-value*	SURC	SHGC lower limit	SHGC upper limit
No Data Availat	ble				
Custom* roof w	vindows				
	Window	Maximum		Substitution to	lerance ranges
Mindow			CUCC*		
Window ID	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit

### 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 Ava	ailable					
Skyligh	nt sched	lule				
	Sladight	Sladight	Skylight	Area	Outdoor	Sladight shoft

Area Skylight Skylight Outdoor Skylight shaft Location shaft length Orientation Diffuser (m<sup>2</sup>) ID No. 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
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

### 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	2800	6195	NE	0	NO
Bedroom 1	EW-1	2800	3395	SE	0	NO
Bedroom 2	EW-1	2800	3295	SE	0	NO
Bedroom 2	EW-1	2800	1000	SW	0	NO
Kitchen/Living	EW-1	2800	7195	NE	1000	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		73.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		71.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilatio		Covering
Hall	Concrete Slab, Unit Below 150mm	4.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 150mm	14.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 150mm	9.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	47.90 None	No Insulation	Cork Tiles or Parquetry 8mm
Bed 2 WIR	Concrete Slab, Unit Below 150mm	5.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Ens	Concrete Slab, Unit Below 150mm	5.30 None	No Insulation	Ceramic Tiles 8mm
Entry	Concrete Slab, Unit Below 150mm	4.80 None	No Insulation	Cork Tiles or Parquetry 8mm

## Ceiling type

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

0004866570 NatHERS 0	Certificate	7.4 Star Ratin	7.4 Star Rating as of 26 May 2020				
Location	Construction material/type		Bulk insulation R-value (may include edge batt v	alues)	Reflective wrap*		
Entry	Concrete, Plas	terboard	No insulation		No		
Ceiling pene	trations*						
Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed			
No Data Available							
Ceiling fans							
Location		Qua	ntity	Diameter (mm)			
No Data Available							
Roof type							
Construction		Added insulation	on (R-value)	Solar absorptance	Roof shade		

0.50

Medium

No Insulation, Only an Air Gap

Waterproofing Membrane



### **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 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						
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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 10m e.g. suburban housing, heavily vegetated bushland areas.						
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National Construction Code	the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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						
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.						
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Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.						
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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 know n 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.						
Vortical chading factures	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. 0004866620

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Unit 1.11, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

# Plans

Main Plan

Prepared by

Warriewood Residential Development VIA Architects

### Construction and environment

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	141.0
Unconditioned*	0.0
Total	141.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email Phone

0421381005

David Howard

Accreditation No.

Assessor Accrediting Organisation

Partners Energy Management

david@partnersenergy.com.au

20039

ABSA

**Declaration of interest** 

Declaration completed: no conflicts



# 45.0 MJ/m<sup>2</sup>

R

ENERGY RATING SCHEME

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
21.3	23.7
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=jDOxSKmdN. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WIND	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit	

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No

\* Refer to glossary.

0004866620 NatHERS Certificate

#### 6.5 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	1800	n/a	00	SW	No
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	SW	No
Kitchen/Living	ALM-001-01 A	n/a	2700	4000	n/a	45	SW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	1200	n/a	00	SE	No
Kitchen/Living	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Bedroom 3	ALM-001-01 A	n/a	2800	1200	n/a	00	SE	No
Bedroom 3	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Windov	v	Maximum U-value*		0110.0*	Substitution tolerance ranges			
	Descrip	otion			SHGC*	SHGC lowe	er limit	SHGC upper limit	
No Data Ava	ilable								
Custom* roc	f windows								
Window ID Window		v	Maximum		SHGC*	Substitution tolerance ranges			
	Descrip	otion	U-value*		SHGC	SHGC lower limit		SHGC upper limit	
No Data Ava	ilable								
Roof w	indow so	hedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoo shade	or Indoor shade	
No Data Ava	ilable								

## 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							

6.5 Star Rating as of 26 May 2020



### External door schedule

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

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	2000	NW	6800	YES
Bedroom Master	EW-1	2800	695	SW	2400	YES
Bedroom Master	EW-1	2800	3995	SE	100	NO
Bedroom Master	EW-1	2800	3000	SW	400	NO
Ens	EW-1	2800	3490	SE	75	NO
Kitchen/Living	EW-1	2800	5095	SW	2400	NO
Kitchen/Living	EW-1	2800	3290	SE	50	NO
Bedroom 2	EW-1	2800	3690	SE	50	NO
Bedroom 3	EW-1	2800	3495	SE	25	NO

## Internal wall type

Wall ID	Wall type	<b>Are</b> a (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		107.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		69.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilatio		Covering
Bedroom Master	Concrete Slab, Unit Below 150mm	19.30 None	No Insulation	Carpet+Rubber Underlay 18mm
Ens	Concrete Slab, Unit Below 150mm	6.10 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	79.30 None	No Insulation	Cork Tiles or Parquetry 8mm
Bath	Concrete Slab, Unit Below 150mm	6.20 None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab, Unit Below 150mm	4.00 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	13.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 150mm	12.60 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 Master	Concrete, Plasterboard	Bulk Insulation R1.5	No
Ens	Concrete, Plasterboard	Bulk Insulation R1.5	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Bath	Concrete, Plasterboard	No insulation	No
Ldry	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	Bulk Insulation R1.5	No
Bedroom 3	Concrete, Plasterboard	Bulk Insulation R1.5	No

## Ceiling penetrations\*

Waterproofing Membrane

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction		Added insulation (R-val	ue)	Solar absorptance	Roof shade

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).

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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 NatHERS accredited softw are and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

### Glossary

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 dow nlights, 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).					
	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 10m e.g. suburban housing, heavily vegetated bushland areas.					
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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.					
	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 know n 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 chading factures	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).					

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866653

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Unit 1.12, 25-27 Warriewood rd Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### Construction and environm

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	132.0
Unconditioned*	0.0
Total	132.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email Phone

Accreditation No.

David Howard

Partners Energy Management david@partnersenergy.com.au

0421381005

20039

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts



# 30.9 MJ/m<sup>2</sup>

R

ENERGY RATING SCHEME

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
12.6	18.3
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=zkXhXmTsd. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3000	SHGC lower limit SHGC upper limit		

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	2100	n/a	45	SW	No

\* Refer to glossary.

0004866653 NatHERS	7.6 Star Rati	7.6 Star Rating as of 26 May 2020						
Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2700	600	n/a	90	SW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	4000	n/a	45	SW	No
Bedroom 2	ALM-001-01 A	n/a	2800	1800	n/a	45	SW	No
Bedroom 2	ALM-001-01 A	n/a	2700	600	n/a	90	SW	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SUCC*	Substitution tolerance ranges		
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availat	ble					
Custom* roof w	vindows					
Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*		SHGC lower limit	SHGC upper limit	
	ble					

### 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	

#### Skylight Skylight Skylight Outdoor Skylight shaft Area shaft length Orientation Diffuser Location reflectance ID No. $(m^{2})$ shade (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
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3595	SW	900	NO
Bedroom Master	EW-1	2800	1500	SE	2000	NO
Kitchen/Living	EW-1	2800	4695	SW	2100	YES
Bedroom 2	EW-1	2800	3295	SW	900	NO
Bedroom 2	EW-1	2800	1200	NW	7100	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		101.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		97.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Bedroom Master	Concrete Slab, Unit Below 150mm	32.30 None	No Insulation	Carpet+Rubber Underlay 18mm
Ens	Concrete Slab, Unit Below 150mm	7.40 None	No Insulation	Ceramic Tiles 8mm
Entry	Concrete Slab, Unit Below 150mm	4.20 None	No Insulation	Cork Tiles or Parquetry 8mm
Ldry	Concrete Slab, Unit Below 150mm	6.20 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	57.80 None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	16.00 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 150mm	8.00 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

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

0004866653 NatHERS Certi	ficate 7.6 Star Rating as	s of 26 May 2020		NATIONWIDE MALI LUINE JAME		
Location	Construction material/type	Bulk insulation R-value (may include edge batt val		Reflective wrap*		
Bath	Concrete, Plasterboard	No insulation	١	No		
Ceiling penetrations*						
Location	Quantity Type	Diameter (mm <sup>2</sup> )	Sealed/unsealed			

No Data Available

## Ceiling fans

Location	Quantity	Diameter (mm)	Diameter (mm)		
No Data Available					
Roof type					
Construction	Added insulation (R-value)	Solar absorptance	Roof shade		

Waterproofing Membrane	No Insulation, Only an Air Gap	0.50	Medium



### **Explanatory notes**

#### About this report

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### Glossary

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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 dow nlights, 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
	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
	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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
	www.nathers.gov.au
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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
	generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released
	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866679

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Unit 1.13, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

# Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	99.0
Unconditioned*	0.0
Total	99.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

# ccredited assessor

Name **Business name** Email Phone

Accreditation No.

20039

**Declaration of interest** 

**David Howard** 

Partners Energy Management david@partnersenergy.com.au

0421381005

Assessor Accrediting Organisation

ABSA

Declaration completed: no conflicts



# 37.2 MJ/m<sup>2</sup>

R

ENERGY RATING SCHEME

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
17.4	19.8
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=wKJLTvgPY. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	

#### Custom\* windows

Window ID	Window Maximum	SHGC*	Substitution to	lerance ranges	
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Bedroom Master	ALM-001-01 A	n/a	2800	900	n/a	00	NW	No	

\* Refer to glossary.

0004866679 NatHERS Certificate

#### 7.2 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2700	600	n/a	90	NW	No
Bedroom Master	ALM-001-01 A	n/a	2700	1500	n/a	00	SW	No
Bedroom Master	ALM-001-01 A	n/a	2700	600	n/a	90	SW	No
Ens	ALM-001-01 A	n/a	2700	600	n/a	90	NW	No
Bedroom 2	ALM-001-01 A	n/a	2800	1200	n/a	00	NW	No
Bedroom 2	ALM-001-01 A	n/a	2700	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	4800	n/a	65	SW	No
-								

## Roof window type and performance

#### Default\* roof windows

Window ID	Windov	/	Maximum		SHGC*	Subst	Substitution tolerance ranges			
window ID	Description U-value*		SHGC low	er limit	SHGC upper limit					
No Data Ava	ilable									
Custom* roc	of windows									
Window ID	Windov	/	Maxim	um	SHGC*	Subst	itution tole	erance ranges		
	Descrip	otion	U-value*		SHGC	SHGC low	er limit	t SHGC upper limit		
No Data Ava	ilable									
Roof w	indow so	hedule								
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdo shade			
No Data Ava	ilable									

### Skylight type and performance

Skylight ID			Skylight description						
No Data Avail	able								
Skylight	t sched	lule							
	Skylight	Skylight	Skylight	Area	Outdoor	Skylight shaft			

Skylight shaft Skylight Skylight Outdoor shaft length Diffuser Orientation Location ID  $(m^{2})$ No. 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	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3495	NW	0	NO
Bedroom Master	EW-1	2800	3395	SW	1800	NO
Ens	EW-1	2800	2545	NW	0	YES
Ens	EW-1	2800	1295	NW	0	YES
Bedroom 2	EW-1	2800	3711	NW	0	YES
Kitchen/Living	EW-1	2800	5595	SW	1800	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		80.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		59.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Bedroom Master	Concrete Slab, Unit Below 150mm	15.90 None	No Insulation	Carpet+Rubber Underlay 18mm
Ens	Concrete Slab, Unit Below 150mm	6.40 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	13.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	50.80 None	No Insulation	Cork Tiles or Parquetry 8mm
Ldry	Concrete Slab, Unit Below 150mm	3.10 None	No Insulation	Cork Tiles or Parquetry 8mm
Bath	Concrete Slab, Unit Below 150mm	9.10 None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

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



### **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	,	Added insulation (R-val	ue)	Solar absorptance	Roof shade
Waterproofing Membrane	9	No Insulation, Only an Air	Gap	0.50	Medium



### **Explanatory notes**

#### About this report

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

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

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

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### Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
	the produced an oblink of order gy required 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 dow nlights, 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.
	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
	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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
NOOT 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.
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 heat 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 know n 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 stidulity realures	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866703

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Unit 2.01, 25-27 Warriewood rd Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	114.
Unconditioned*	0.0
Total	114.
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

# ccredited assessor

Name **Business name** Email Phone

Partners Energy Management david@partnersenergy.com.au 0421381005

**David Howard** 

20039

Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts

### The more stars the more energy efficient IONWIDE ENERGY RATING SCHEME

# 52.6 MJ/m<sup>2</sup>

R

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
24.0	28.5
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=NqsOLOOOI. 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.

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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?

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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?

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

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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.

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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".

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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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SUCC*	Substitution tolerance ranges	
window ID	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54
Custom* window	VS				
	Window	Maximum	0100*	Substitution to	lerance ranges

**U-value\*** 

SHGC\*

SHGC lower limit

No Data Available

Window ID

### Window and glazed door schedule

Description

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Bedroom 1	ALM-003-01 A	n/a	2700	600	n/a	90	SW	No	

\* Refer to glossary.

SHGC upper limit

0004866703 NatHERS Certificate

#### 5.9 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-003-01 A	n/a	2700	2100	n/a	45	SW	No
Kitchen/Living	ALM-003-01 A	n/a	2700	2700	n/a	20	SE	No
Kitchen/Living	ALM-003-01 A	n/a	2700	4000	n/a	45	SW	Yes
Kitchen/Living	ALM-003-01 A	n/a	2700	1000	n/a	00	NW	Yes
Bedroom 2	ALM-003-01 A	n/a	2700	600	n/a	90	SE	No
Bedroom 2	ALM-003-01 A	n/a	2700	1200	n/a	00	SE	No
Bedroom 3	ALM-003-01 A	n/a	2700	1200	n/a	00	SE	No
Bedroom 3	ALM-003-01 A	n/a	2700	600	n/a	90	SE	No

## Roof window type and performance

### Default\* roof windows

Window ID	Winde	WC	Maxim	Maximum SHGC* U-value*		Substitution tolerance ranges			
window ID	Desc	ription	U-val			SHGC lo	ower limit	SHGC upper limit	
No Data Ava	ailable								
Custom* ro	of windows								
Window ID	Wind		Maxim		SHGC*			lerance ranges	
		ription	U-val	ue <sup>*</sup>		SHGC lo	ower limit	SHGC upper limit	
No Data Ava	ailable								
Roof w	<b>/indow</b> ક	schedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdo shade		
No Data Ava	ailable								
Skyligł	nt type a	nd perforn	nance Skylight des	scription		_			
<b>Skyligł</b> Skylight ID	nt type a	nd perforn		scription		_			
Skyligh Skylight ID No Data Ava	nt type a			scription		_			
Skyligh Skylight ID No Data Ava Skyligh	<b>nt</b> type a			Area	ntation	Outdoor shade	Diffuser	Skylight shaft reflectance	
Skylight ID Skylight ID No Data Ava Skyligh Location	nt type a ailable nt sched Skylight ID	Ule Skylight	Skylight des Skylight shaft length	Area Orio	ntation		Diffuser		
Skylight ID No Data Ava Skyligh Location No Data Ava	ailable <b>nt</b> sched Skylight ID ailable	Ule Skylight	Skylight des Skylight shaft length	Area Orio	ntation		Diffuser		

\* Refer to glossary. Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21) for Unit 2.01, 25-27 Warriew ood rd , Warriew ood , NSW , 2102



Location	Height (mm)	Width (mm)	Opening %	Orientation
Hall/Ldry	2040	820	90	NW

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## 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	2800	3695	SW	0	NO
Kitchen/Living	EW-1	2800	4495	SE	0	NO
Kitchen/Living	EW-1	2800	2000	SW	0	YES
Kitchen/Living	EW-1	2800	1000	SE	0	YES
Kitchen/Living	EW-1	2800	5800	SW	0	NO
Kitchen/Living	EW-1	2800	1400	NW	0	YES
Kitchen/Living	EW-1	2800	595	SW	0	YES
Bedroom 2	EW-1	2800	3090	SE	0	NO
Bedroom 3	EW-1	2800	3595	SE	0	NO
Hall/Ldry	EW-1	2800	2190	NW	8200	YES

## Internal wall type

Wall ID	Wall type	<b>A</b> rea (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		58.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		91.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 150mm	11.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Concrete Slab, Unit Below 150mm	13.00 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	52.20 None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	12.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 150mm	11.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 150mm	5.50 None	No Insulation	Ceramic Tiles 8mm
Hall/Ldry	Concrete Slab, Unit Below 150mm	8.10 None	No Insulation	Cork Tiles or Parquetry 8mm



## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Hall/Ldry	Plasterboard	Bulk Insulation R3.5	No

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
No Data Available				
Ceiling fans				
Location		Quantity		Diameter (mm)
No Data Available				
Roof type				

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.4	0.85	Dark



### **Explanatory notes**

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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 10m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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				
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.				
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				
	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 heat gain coemcient (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).				

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866729

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Unit 2.02, 25-27 Warriewood rd Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

**David Howard** 

0421381005

20039

### Construction and environn

0

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	112.
Unconditioned*	0.0
Total	112.
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

# ccredited assessor

Name **Business name** Email Phone

Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts

Partners Energy Management

david@partnersenergy.com.au



ENERGY RATING SCHEME

# 42.2 MJ/m<sup>2</sup>

R

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
16.7	25.4
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=banhUhtAS. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum U-value*	SHGC*	Substitution tolerance ranges		
	Description			SHGC lower limit	SHGC upper limit	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54	
Custom* windov	vs					
	Window	Maximum	01100*	Substitution to	lerance ranges	

**U-value\*** 

SHGC\*

SHGC lower limit

NI-	Data	A !
INO	Data	Available

Window ID

### Window and glazed door schedule

Description

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-003-01 A	n/a	2700	600	n/a	90	SW	No

\* Refer to glossary.

SHGC upper limit

0004866729 NatHERS Certificate

#### 6.8 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-003-01 A	n/a	2700	2100	n/a	45	SW	No
Kitchen/Living	ALM-003-01 A	n/a	2700	5200	n/a	45	SW	Yes
Kitchen/Living	ALM-003-01 A	n/a	2700	900	n/a	00	NW	Yes
Bedroom 2	ALM-003-01 A	n/a	2700	600	n/a	90	NW	No
Bedroom 2	ALM-003-01 A	n/a	2700	1200	n/a	00	NW	No
Bedroom 3	ALM-003-01 A	n/a	2700	600	n/a	90	SW	No
Bedroom 3	ALM-003-01 A	n/a	2700	1200	n/a	00	SW	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window	v	Maximum		SHGC*	Substitution tolerance ranges			
WIND	Descri	Description		U-value*		SHGC lowe	er limit	SHGC upper limit	
No Data Ava	ilable								
Custom* roc	of windows								
Window		v	Maximum		SHGC*	Substitution tolerance ranges			
Window ID	Descri	otion	U-valı	U-value*		SHGC lowe	er limit	SHGC upper limit	
No Data Ava	ilable								
Roof w	indow so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdo shade		

### Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

No Data Available

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
Kitchen/Living	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	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3495	SW	0	YES
Kitchen/Living	EW-1	2800	1300	SE	0	YES
Kitchen/Living	EW-1	2800	7800	SW	0	NO
Kitchen/Living	EW-1	2800	900	NW	0	YES
Kitchen/Living	EW-1	2800	1995	NE	7200	NO
Bedroom 2	EW-1	2800	3595	NW	0	NO
Bedroom 3	EW-1	2800	3595	SW	0	YES
Bedroom 3	EW-1	2800	3695	NW	0	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		84.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		55.00	No Insulation

### Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Bedroom Master	Concrete Slab, Unit Below 150mm	11.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom Master	Concrete Slab, Unit Below 150mm	12.30 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	58.60 None	No Insulation	Cork Tiles or Parquetry 8mm
Ldry	Concrete Slab, Unit Below 150mm	0.90 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 150mm	4.90 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	11.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 150mm	12.00 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 Master	Plasterboard	Bulk Insulation R3.5	No
Bedroom Master	Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Plasterboard	Bulk Insulation R3.5	No



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Ldry	Plasterboard	Bulk Insulation R3.5	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	Added insulation	ı (R-value)		Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective S	ide Down, Anti-glare Up	R1.4	0.85	Dark



### **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 softw are and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

### Glossary

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 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 sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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 generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also know n 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).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866323

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Lot/DP

Type

Unit 2.03, 25-27 Warriewood rd , Warriewood , NSW , 2102

NCC Class\*

New Dwelling

5464

1A

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### **Construction and environment**

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	97.0
Unconditioned*	0.0
Total	97.0
Garage	0.0

Exposure Type Suburban NatHERS climate zone

# Accredited assessor

Name Business name Email Phone

david@partnersenergy.com.au 0421381005

20039

**David Howard** 

Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts

Partners Energy Management



# 41.1 MJ/m<sup>2</sup>

R

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
16.7	24.4
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=fcrQvHoqT. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit		
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54		
Custom* windows							

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

 SHGC lower limit
 SHGC upper limit

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Bedroom Master	ALM-003-01 A	n/a	2700	600	n/a	90	NW	No	

\* Refer to glossary.

### 0004866323 NatHERS Certificate

#### 6.9 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-003-01 A	n/a	2700	2400	n/a	45	NW	No
Kitchen/Living	ALM-003-01 A	n/a	2700	4000	n/a	10	NW	Yes
Kitchen/Living	ALM-003-01 A	n/a	2700	5600	n/a	45	NE	Yes
Bed 2	ALM-003-01 A	n/a	2700	600	n/a	90	NE	Yes
Bed 2	ALM-003-01 A	n/a	2700	1200	n/a	00	NE	Yes

### Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SU 00*	Substitution tolerance ranges		
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availal	ble					
Custom* roof w	vindows					
Window ID	Window	Maximum U-value*	SHGC*	Substitution tolerance ranges		
window ID	Description			SHGC lower limit	SHGC upper limit	

### Roof window schedule

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

## 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 Available								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
Entry/Ldry	2040	820	90	SE	



### External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Entry/Ldry	EW-1	2800	1300	SE	4400	YES
Ens	EW-1	2800	1790	SW	1400	NO
Bedroom Master	EW-1	2800	4495	NW	0	NO
Kitchen/Living	EW-1	2800	6595	NW	0	NO
Kitchen/Living	EW-1	2800	6895	NE	0	NO
Bed 2	EW-1	2800	3195	NE	0	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		51.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		75.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Entry/Ldry	Concrete Slab, Unit Below 150mm	11.40 None	No Insulation	Cork Tiles or Parquetry 8mm
Bath	Concrete Slab, Unit Below 150mm	5.80 None	No Insulation	Ceramic Tiles 8mm
Ens	Concrete Slab, Unit Below 150mm	4.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom Master	Concrete Slab, Unit Below 150mm	18.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	43.90 None	No Insulation	Cork Tiles or Parquetry 8mm
Bed 2	Concrete Slab, Unit Below 150mm	12.50 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Entry/Ldry	Plasterboard	Bulk Insulation R3.5	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom Master	Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Plasterboard	Bulk Insulation R3.5	No
Bed 2	Plasterboard	Bulk Insulation R3.5	No

Corrugated Iron

Bulk, Reflective Side Down, Anti-glare Up R1.4



0.85

Dark

### **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	Added insulation	(R-value)		Solar absorptance	Roof shade



### **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.						
, and a onergy roug	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						
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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.						
	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it						
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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).						
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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 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 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.						
Color hast usin as officiant (CLCC)	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 know n 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 shaung leatures	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).						

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866331

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Unit 2.04, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

# Plans

Main Plan

Prepared by

Warriewood Residential Development VIA Architects

### Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	113.
Unconditioned*	0.0
Total	113.
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

# ccredited assessor

Name **Business name** Email Phone

Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Partners Energy Management

david@partnersenergy.com.au

**David Howard** 

0421381005

20039

Declaration completed: no conflicts



ENERGY RATING SCHEME

# 38.9 MJ/m<sup>2</sup>

R

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
10.1	28.9
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

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p=tmuEgyoyd. 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.

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### **Certificate check**

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#### Ceiling penetrations\*

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

#### Windows

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

#### 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31160	SHGC lower limit	SHGC upper limit	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54	
Custom* windows	S					

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

 SHGC lower limit
 SHGC upper limit

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-003-01 A	n/a	2700	600	n/a	90	NE	No

\* Refer to glossary.

0004866331 NatHERS Certificate

#### 7.0 Star Rating as of 26 May 2020



Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
ALM-003-01 A	n/a	2700	2100	n/a	45	NE	No
ALM-003-01 A	n/a	2700	600	n/a	90	NE	No
ALM-003-01 A	n/a	1200	600	n/a	45	NE	No
ALM-003-01 A	n/a	2700	1200	n/a	00	NE	No
ALM-003-01 A	n/a	2700	5400	n/a	45	NE	Yes
ALM-003-01 A	n/a	2700	2700	n/a	00	SE	No
ALM-003-01 A	n/a	2700	600	n/a	90	SE	No
	ID ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A	ID         no.           ALM-003-01 A         n/a           ALM-003-01 A         n/a	ID         no.         (mm)           ALM-003-01 A         n/a         2700           ALM-003-01 A         n/a         2700	ID         no.         (mm)         (mm)           ALM-003-01 A         n/a         2700         2100           ALM-003-01 A         n/a         2700         600           ALM-003-01 A         n/a         2700         600           ALM-003-01 A         n/a         1200         600           ALM-003-01 A         n/a         2700         5400           ALM-003-01 A         n/a         2700         5400           ALM-003-01 A         n/a         2700         2700	ID         no.         (mm)         (mm)         type           ALM-003-01 A         n/a         2700         2100         n/a           ALM-003-01 A         n/a         2700         600         n/a           ALM-003-01 A         n/a         1200         600         n/a           ALM-003-01 A         n/a         1200         600         n/a           ALM-003-01 A         n/a         2700         1200         n/a           ALM-003-01 A         n/a         2700         5400         n/a           ALM-003-01 A         n/a         2700         5400         n/a           ALM-003-01 A         n/a         2700         2700         n/a	ID         no.         (mm)         (mm)         type         %           ALM-003-01 A         n/a         2700         2100         n/a         45           ALM-003-01 A         n/a         2700         600         n/a         90           ALM-003-01 A         n/a         1200         600         n/a         45           ALM-003-01 A         n/a         1200         600         n/a         45           ALM-003-01 A         n/a         2700         1200         n/a         45           ALM-003-01 A         n/a         2700         5400         n/a         45           ALM-003-01 A         n/a         2700         5400         n/a         45           ALM-003-01 A         n/a         2700         2700         n/a         00	ID         no.         (mm)         (mm)         type         %         Orientation           ALM-003-01 A         n/a         2700         2100         n/a         45         NE           ALM-003-01 A         n/a         2700         600         n/a         90         NE           ALM-003-01 A         n/a         1200         600         n/a         45         NE           ALM-003-01 A         n/a         1200         600         n/a         45         NE           ALM-003-01 A         n/a         2700         1200         n/a         45         NE           ALM-003-01 A         n/a         2700         5400         n/a         45         NE           ALM-003-01 A         n/a         2700         5400         n/a         45         NE           ALM-003-01 A         n/a         2700         2700         n/a         00         SE

## Roof window type and performance

#### Default\* roof windows

Window ID	Windo	N	Maximum U-value*		SHGC*	Substitution tolerance ranges			
	Descri	ption			SHGC	SHGC lower	limit :	SHGC upper limit	
No Data Availa	able								
Custom* roof	windows								
Window ID	Window	N	Maxim	um	SHGC*	Substitu	ution tolera	erance ranges	
	Descri	ption	U-value*		31160	SHGC lower	limit	SHGC upper limit	
No Data Availa	able								
Roof wi	ndow so	chedule							
Location	Window	Window	Opening	Height	Width	Orientation	Outdoor	Indoor	

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

## 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 Available								

### External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	820	90	SW



### External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	2995	NE	0	NO
Ens	EW-1	2800	1890	NE	0	NO
Bedroom 2	EW-1	2800	3490	NE	0	NO
Kitchen/Living	EW-1	2800	8395	NE	0	NO
Kitchen/Living	EW-1	2800	4396	SE	25	YES
Kitchen/Living	EW-1	2800	1695	SW	1800	YES
Ldry/Pantry	EW-1	2800	2495	SE	25	YES

## Internal wall type

Wall ID	Wall type	<b>Are</b> a (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		83.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		73.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m²) ventilatio	Added insulation (R-value)	Covering
Bath	Concrete Slab, Unit Below 150mm	8.40 None	No Insulation	Ceramic Tiles 8mm
Bedroom Master	Concrete Slab, Unit Below 150mm	22.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Ens	Concrete Slab, Unit Below 150mm	7.50 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	14.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	54.90 None	No Insulation	Cork Tiles or Parquetry 8mm
Ldry/Pantry	Concrete Slab, Unit Below 150mm	5.50 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom Master	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Plasterboard	Bulk Insulation R3.5	No

0004866331 NatHERS	3 Certificate	7.0 Star Ra	ating as of 26 May 2020		NATION W
Location	Construct material/		Bulk insulation R-value (may include edge batt values)		Reflective wrap*
Ldry/Pantry	Plasterbo	vard	Bulk Insulation R3.5		No
Ceiling pen	etrations*				
Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans	S				
Location		G	Quantity	Diameter (mm)	
No Data Available					
Roof type					
Construction	Added insulation	on (R-value)		Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective	Side Down, A	nti-glare Up R1.4	0.85	Dark



### **Explanatory notes**

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## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866364

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Lot/DP

Unit 2.05, 25-27 Warriewood rd , Warriewood , NSW , 2102

NCC Class\*

Туре

1A

5464

New Dwelling

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### **Construction and environment**

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	112.0
Unconditioned*	0.0
Total	112.0
Garage	0.0

Suburban
NatHERS climate zone
56

**Exposure Type** 

# Accredited assessor

Name Business name Email Phone

david@partnersenergy.com.au 0421381005

20039

**David Howard** 

Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts

Partners Energy Management



# 35.2 MJ/m<sup>2</sup>

R

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
12.4	22.8
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

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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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31160	SHGC lower limit	SHGC upper limit	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54	
Custom* windows	S					

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

 SHGC lower limit
 SHGC upper limit

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-003-01 A	n/a	2700	600	n/a	90	NE	No

\* Refer to glossary.

### 0004866364 NatHERS Certificate

#### 7.3 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-003-01 A	n/a	2700	1200	n/a	00	NE	No
Bedroom 2	ALM-003-01 A	n/a	2700	600	n/a	90	NE	No
Bedroom 2	ALM-003-01 A	n/a	2700	1200	n/a	00	NE	No
Kitchen/Living	ALM-003-01 A	n/a	2700	5400	n/a	45	NW	Yes
Kitchen/Living	ALM-003-01 A	n/a	2700	4000	n/a	45	NE	Yes

### Roof window type and performance

### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window ID	Description	U-value*	SURC	SHGC lower limit	SHGC upper limit	
No Data Availa	ble					
Custom* roof v	vindows					
Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges	
	Description	U-value*	3000			
	Description	e faide		SHGC lower limit	SHGC upper limit	

### Roof window schedule

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

## Skylight type and performance

Skylight ID	Skylight description
No Data Available	

## Skylight schedule

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

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
Entry	2040	820	90	SW	



### External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Entry	EW-1	2800	1600	SW	400	NO
Bedroom Master	EW-1	2800	4295	NE	0	NO
Bedroom 2	EW-1	2800	3790	NE	0	NO
Kitchen/Living	EW-1	2800	8551	NW	0	NO
Kitchen/Living	EW-1	2800	6195	NE	0	NO

### Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		61.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		97.00	No insulation

### Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Entry	Concrete Slab, Unit Below 150mm	10.60 None	No Insulation	Cork Tiles or Parquetry 8mm
Bath	Concrete Slab, Unit Below 150mm	7.50 None	No Insulation	Ceramic Tiles 8mm
Bedroom Master	Concrete Slab, Unit Below 150mm	16.00 None	No Insulation	Carpet+Rubber Underlay 18mm
Ens	Concrete Slab, Unit Below 150mm	4.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	16.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Ldry	Concrete Slab, Unit Below 150mm	1.60 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	55.40 None	No Insulation	Cork Tiles or Parquetry 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Entry	Plasterboard	Bulk Insulation R3.5	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom Master	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Ldry	Plasterboard	Bulk Insulation R3.5	No

0004866364 NatHER	S Certificate	7.3 Star Ra	ating as of 26 May 2020		NATION WUPE HEIGHT REISE
Location	Construct material/		Bulk insulation R-value (may include edge batt values)		Reflective wrap*
Kitchen/Living	Plasterboard		Bulk Insulation R3.5		No
Ceiling pen	etrations*				
Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans	S				
Location	Quantity		Diameter (mm)		
No Data Available					
Roof type					
Construction	Added insulation	n (R-value)		Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.4		0.85	Dark	



### **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.
Ceiling penetrations	features that require a penetration to the ceiling, including dow nlights, 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.
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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).
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 10m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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
	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 heat gain coemcient (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).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866398

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Unit 2.06, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

1A

Type

Lot/DP

New Dwelling

5464

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

## Construction and environme

0

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	117.
Unconditioned*	0.0
Total	117.
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email Phone

David Howard Partners Energy Management david@partnersenergy.com.au 0421381005

20039

### Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts

### The more stars the more energy efficient IONWIDF NAT ENERGY RATING SCHEME

## 34.7 MJ/m<sup>2</sup>

R

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
10.7	23.9
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=OKzbUgUve. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges				
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit			
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54			
Custom* windows								

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value*	3000	SHGC lower limit	SHGC upper limit	

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Ldry/Pantry	ALM-003-01 A	n/a	2700	600	n/a	90	SE	No	

\* Refer to glossary.

#### 0004866398 NatHERS Certificate

#### 7.4 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-003-01 A	n/a	2700	5200	n/a	45	NE	Yes
Kitchen/Living	ALM-003-01 A	n/a	2700	4000	n/a	45	SE	No
Bedroom Master	ALM-003-01 A	n/a	2700	600	n/a	90	NE	No
Bedroom Master	ALM-003-01 A	n/a	2700	1200	n/a	00	NE	No
Bedroom 2	ALM-003-01 A	n/a	2700	600	n/a	90	NE	No
Bedroom 2	ALM-003-01 A	n/a	2700	1200	n/a	00	NE	No

## Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SURC	SHGC lower limit	SHGC upper limit	
No Data Availat	ole					
Custom* roof w	vindows					
Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Window ID	Description	U-value*	3000	SHGC lower limit	SHGC upper limit	

## 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 Available								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2040	820	90	SW



## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Ldry/Pantry	EW-1	2800	2695	SE	0	NO
Kitchen/Living	EW-1	2800	1600	SW	1300	NO
Kitchen/Living	EW-1	2800	8595	NE	0	NO
Kitchen/Living	EW-1	2800	5695	SE	0	NO
Bedroom Master	EW-1	2800	3995	NE	0	NO
Bedroom 2	EW-1	2800	3590	NE	0	NO

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		64.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		82.00	No insulation

## Floor type

Location	Construction	Area Sub-floo (m <sup>2</sup> ) ventilatio		Covering
Ldry/Pantry	Concrete Slab, Unit Below 150mm	6.50 None	No Insulation	20/80 Ceramic/Cork
Kitchen/Living	Concrete Slab, Unit Below 150mm	64.20 None	No Insulation	Cork Tiles or Parquetry 8mm
Bath	Concrete Slab, Unit Below 150mm	5.80 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	3.90 None	No Insulation	Cork Tiles or Parquetry 8mm
Ens	Concrete Slab, Unit Below 150mm	6.50 None	No Insulation	Ceramic Tiles 8mm
Bedroom Master	Concrete Slab, Unit Below 150mm	18.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab, Unit Below 150mm	12.10 None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Ldry/Pantry	Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Plasterboard	Bulk Insulation R3.5	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No

\* Refer to glossary. Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21) for Unit 2.06, 25-27 Warriew ood rd , Warriew ood , NSW , 2102



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom Master	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No

## Ceiling penetrations\*

Location	Quantity Type		Diameter (mm <sup>2</sup> )	Diameter (mm <sup>2</sup> ) Sealed/unsealed	
No Data Available					
Ceiling fans	3				
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	Added insulation	(R-value)		Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Si	de Down, Anti-glare Up	R1.4	0.85	Dark



### **Explanatory notes**

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	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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	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 10m e.g. suburban housing, heavily vegetated bushland areas.				
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4				
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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 NatHERS Technical Note and can be found at				
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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.				
Desfusindary	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				
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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.				
	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 know n 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.				
	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).				

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866448

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address

Lot/DP

Unit 2.07, 25-27 Warriewood rd , Warriewood, NSW, 2102

NCC Class\*

1A

5464

Type

New Dwelling

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

**David Howard** 

0421381005

## Construction and environm

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	148.0
Unconditioned*	0.0
Total	148.0
Garage	0.0

Suburban NatHERS climate zone

**Exposure Type** 

## ccredited assessor

Name **Business name** Email Phone

Accreditation No.

20039

### Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts

Partners Energy Management

david@partnersenergy.com.au

### The more stars the more energy efficient IONWIDE NAT ENERGY RATING SCHEME

## 40.2 MJ/m<sup>2</sup>

R

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
17.0	23.2
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=HlwvXdPwk. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-003-01 A	ALM-003-01 A ALM-003-01 A Aluminium A DG Air Fill Clear-Clear		0.51	0.48	0.54	
Custom* windows						

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

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Bedroom 1	ALM-003-01 A	n/a	2700	2100	n/a	45	SW	No	

\* Refer to glossary.

0004866448 NatHERS Certificate

### 6.9 Star Rating as of 26 May 2020



Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
ALM-003-01 A	n/a	2700	3000	n/a	00	SE	No
ALM-003-01 A	n/a	2700	600	n/a	90	SE	Yes
ALM-003-01 A	n/a	2700	4800	n/a	45	SW	Yes
ALM-003-01 A	n/a	2700	600	n/a	00	NW	Yes
ALM-003-01 A	n/a	2700	600	n/a	90	SE	No
ALM-003-01 A	n/a	2700	1200	n/a	00	SE	No
ALM-003-01 A	n/a	2700	1200	n/a	00	SE	No
ALM-003-01 A	n/a	2700	600	n/a	90	SE	No
	ID ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A	ID         no.           ALM-003-01 A         n/a           ALM-003-01 A         n/a	ID         no.         (mm)           ALM-003-01 A         n/a         2700           ALM-003-01 A         n/a         2700	ID         no.         (mm)         (mm)           ALM-003-01 A         n/a         2700         3000           ALM-003-01 A         n/a         2700         600           ALM-003-01 A         n/a         2700         1200           ALM-003-01 A         n/a         2700         1200	ID         no.         (mm)         (mm)         type           ALM-003-01 A         n/a         2700         3000         n/a           ALM-003-01 A         n/a         2700         600         n/a           ALM-003-01 A         n/a         2700         1200         n/a           ALM-003-01 A         n/a         2700         1200         n/a	ID         no.         (mm)         (mm)         type         %           ALM-003-01 A         n/a         2700         3000         n/a         00           ALM-003-01 A         n/a         2700         600         n/a         90           ALM-003-01 A         n/a         2700         600         n/a         90           ALM-003-01 A         n/a         2700         600         n/a         45           ALM-003-01 A         n/a         2700         600         n/a         90           ALM-003-01 A         n/a         2700         1200         n/a         00           ALM-003-01 A         n/a         2700         1200         n/a         00	ID         no.         (mm)         (mm)         type         %         Orientation           ALM-003-01 A         n/a         2700         3000         n/a         00         SE           ALM-003-01 A         n/a         2700         600         n/a         90         SE           ALM-003-01 A         n/a         2700         1200         n/a         00         SE           ALM-003-01 A         n/a         2700         1200         n/a         00         SE           ALM-003-01 A         n/a         2700         1200         n/a         00         SE

## Roof window type and performance

### Default\* roof windows

Window ID	Winde	WC	Maximum SHGC* U-value*		Sub	ostitution tol	erance ranges	
window ID	Desc	ription			SHGC	SHGC lo	ower limit	SHGC upper limit
No Data Ava	ailable							
Custom* ro	of windows							
Window ID	Winde		Maxim		SHGC*			erance ranges
		ription	U-val	ue <sup>*</sup>		SHGC lo	ower limit	SHGC upper limit
No Data Ava	ailable							
Roof w	<b>/indow</b> ક	schedule						
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdo shade	
No Data Ava	ailable					_		
Skyligl	nt type a	nd perforn	nance Skylight des	scription		_		
<b>Skyligl</b> Skylight ID	nt type a	nd perforn		scription		_		
Skyligi Skylight ID No Data Ava	nt type a			scription				
Skyligh Skylight ID No Data Ava Skyligh	<b>nt</b> type a			Area	ntation	Outdoor shade	Diffuser	Skylight shaft reflectance
Skylight ID Skylight ID No Data Ava Skyligh Location	nt type a ailable nt schede Skylight ID	Ule Skylight	Skylight des Skylight shaft length	Area Orio	ntation		Diffuser	
Skylight ID No Data Ava Skyligi Location No Data Ava	ailable <b>nt</b> schede Skylight ID ailable	Ule Skylight	Skylight des Skylight shaft length	Area Orio	ntation		Diffuser	

\* Refer to glossary. Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21) for Unit 2.07, 25-27 Warriew ood rd , Warriew ood , NSW , 2102



Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry Hall	2040	820	90	NW

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## 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	2800	4495	SW	0	YES
Kitchen/Living	EW-1	2800	5295	SE	0	NO
Kitchen/Living	EW-1	2800	2100	SW	0	YES
Kitchen/Living	EW-1	2800	1000	SE	0	YES
Kitchen/Living	EW-1	2800	6900	SW	0	NO
Kitchen/Living	EW-1	2800	1000	NW	0	YES
Bedroom 2	EW-1	2800	3290	SE	0	NO
Bedroom 3	EW-1	2800	3895	SE	0	NO
Entry Hall	EW-1	2800	1995	NW	8200	YES

## Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		67.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		116.00	No insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 150mm	17.20 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Concrete Slab, Unit Below 150mm	18.30 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	62.60 None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	14.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 150mm	14.60 None	No Insulation	Carpet+Rubber Underlay 18mm
Entry Hall	Concrete Slab, Unit Below 150mm	11.70 None	No Insulation	Cork Tiles or Parquetry 8mm
Ldry	Concrete Slab, Unit Below 150mm	2.90 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 150mm	5.80 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	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Entry Hall	Plasterboard	Bulk Insulation R3.5	No
Ldry	Plasterboard	Bulk Insulation R3.5	No
Bath	Plasterboard	Bulk Insulation R3.5	No

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	Added insulation	n (R-value)		Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective S	ide Down, Anti-glare Up R	1.4	0.85	Dark



### **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 softw are and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

### Glossary

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 dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes
Celling perfect actors	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 m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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.
	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 chading factures	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866463

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address

Lot/DP

Unit 2.08, 25-27 Warriewood rd , Warriewood , NSW , 2102

NCC Class\*

1/

Туре

1A

New Dwelling

5464

### ΛΛ

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

## **Construction and environment**

0

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	155.
Unconditioned*	0.0
Total	155.
Garage	0.0

Exposure Type Suburban NatHERS climate zone

## Accredited assessor

Name Business name Email Phone

Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

20039

Partners Energy Management

david@partnersenergy.com.au

Declaration completed: no conflicts

**David Howard** 

0421381005



ENERGY RATING SCHEME

## 36.4 MJ/m<sup>2</sup>

R

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
11.4	25.0
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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## Verification

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p=DMyWWxJHq. 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.

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### **Certificate check**

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### Ceiling penetrations\*

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

#### Windows

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

#### 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

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### **Additional notes**

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

Due to non current Window Library the glazing descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum U-value*	SHGC*	Substitution tolerance ranges		
	Description		SHGC	SHGC lower limit	SHGC upper limit	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54	
Custom* windov	vs					

Window ID Window	Maximum	SHGC*	Substitution to	lerance ranges	
WINDOW ID	Description	U-value*	3160	SHGC lower limit	SHGC upper limit

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-003-01 A	n/a	2700	2100	n/a	45	SW	No

\* Refer to glossary.

0004866463 NatHERS Certificate

### 7.2 Star Rating as of 26 May 2020



Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
ALM-003-01 A	n/a	2700	600	n/a	00	SE	Yes
ALM-003-01 A	n/a	2700	4800	n/a	45	SW	Yes
ALM-003-01 A	n/a	2700	3000	n/a	00	NW	Yes
ALM-003-01 A	n/a	2700	600	n/a	90	NW	Yes
ALM-003-01 A	n/a	2700	600	n/a	90	NW	No
ALM-003-01 A	n/a	2700	1200	n/a	00	NW	No
ALM-003-01 A	n/a	2700	1200	n/a	00	NW	No
ALM-003-01 A	n/a	2700	600	n/a	90	NW	No
	ID ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A ALM-003-01 A	ID         no.           ALM-003-01 A         n/a           ALM-003-01 A         n/a	ID         no.         (mm)           ALM-003-01 A         n/a         2700           ALM-003-01 A         n/a         2700	ID         no.         (mm)         (mm)           ALM-003-01 A         n/a         2700         600           ALM-003-01 A         n/a         2700         4800           ALM-003-01 A         n/a         2700         3000           ALM-003-01 A         n/a         2700         600           ALM-003-01 A         n/a         2700         600           ALM-003-01 A         n/a         2700         600           ALM-003-01 A         n/a         2700         1200           ALM-003-01 A         n/a         2700         1200	ID         no.         (mm)         (mm)         type           ALM-003-01 A         n/a         2700         600         n/a           ALM-003-01 A         n/a         2700         4800         n/a           ALM-003-01 A         n/a         2700         3000         n/a           ALM-003-01 A         n/a         2700         600         n/a           ALM-003-01 A         n/a         2700         1200         n/a           ALM-003-01 A         n/a         2700         1200         n/a           ALM-003-01 A         n/a         2700         1200         n/a	ID         no.         (mm)         (mm)         type         %           ALM-003-01 A         n/a         2700         600         n/a         00           ALM-003-01 A         n/a         2700         4800         n/a         45           ALM-003-01 A         n/a         2700         3000         n/a         45           ALM-003-01 A         n/a         2700         3000         n/a         90           ALM-003-01 A         n/a         2700         600         n/a         90           ALM-003-01 A         n/a         2700         600         n/a         90           ALM-003-01 A         n/a         2700         600         n/a         90           ALM-003-01 A         n/a         2700         1200         n/a         00           ALM-003-01 A         n/a         2700         1200         n/a         00	ID         no.         (mm)         (mm)         type         %         Otheritation           ALM-003-01 A         n/a         2700         600         n/a         00         SE           ALM-003-01 A         n/a         2700         4800         n/a         45         SW           ALM-003-01 A         n/a         2700         3000         n/a         00         NW           ALM-003-01 A         n/a         2700         600         n/a         90         NW           ALM-003-01 A         n/a         2700         1200         n/a         00         NW           ALM-003-01 A         n/a         2700         1200         n/a         00         NW

## Roof window type and performance

### Default\* roof windows

Window ID Window		ow	Maximum SHGC		SUCC*	Substitution tolerance ranges			
window ID	Desc	Description U-value*		SHGC	SHGC lo	ower limit	SHGC upper limit		
No Data Ava	ailable								
Custom* ro	of windows								
Window ID	Wind	÷ · ·	Maxin		SHGC*	Sub	stitution tol	erance ranges	
	Desc	ription	U-val	ue*		SHGC lo	ower limit	SHGC upper limit	
No Data Ava	ailable								
Roof w	<b>/indow</b> s	schedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outde shade		
No Data Ava	ailable								
		nd perforr	Mance Skylight de	scription		_			
Skylight ID		nd perforn		scription					
Skylight ID				scription					
Skylight ID No Data Ava Skyligh	ailable			Aroa	ntation	Outdoor shade	Diffuser	Skylight shaft reflectance	
Skylight ID No Data Ava Skyligh Location	ailable nt sched Skylight ID	<i>Ule</i> Skylight	Skylight de Skylight shaft length	Area Orio	ntation		Diffuser		
Skylight ID No Data Ava Skyligh Location No Data Ava	ailable <b>nt</b> <i>sched</i> Skylight ID ailable	<i>Ule</i> Skylight	Skylight de Skylight shaft length	Area Orio	ntation		Diffuser		



Location	Height (mm)	Width (mm)	Opening %	Orientation
Entry Hall	2040	820	90	SE

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective wall wrap*
ID	type	absorptance	(colour)	(R-value)	
EW-1	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## 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	2800	4695	SW	0	YES
Kitchen/Living	EW-1	2800	1000	SE	0	YES
Kitchen/Living	EW-1	2800	6900	SW	0	NO
Kitchen/Living	EW-1	2800	1000	NW	0	YES
Kitchen/Living	EW-1	2800	1300	SW	0	YES
Kitchen/Living	EW-1	2800	5389	NW	0	NO
Bedroom 2	EW-1	2800	3657	NW	0	YES
Bedroom 3	EW-1	2800	3662	NW	0	NO
Entry Hall	EW-1	2800	1995	SE	8000	YES

## Internal wall type

Wall ID	Wall type	<b>Are</b> a (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		119.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		72.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Bedroom 1	Concrete Slab, Unit Below 150mm	18.10 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1	Concrete Slab, Unit Below 150mm	19.30 None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	60.60 None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	17.70 None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 150mm	20.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Entry Hall	Concrete Slab, Unit Below 150mm	11.30 None	No Insulation	Cork Tiles or Parquetry 8mm
Ldry	Concrete Slab, Unit Below 150mm	2.40 None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab, Unit Below 150mm	5.40 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	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Entry Hall	Plasterboard	Bulk Insulation R3.5	No
Ldry	Plasterboard	Bulk Insulation R3.5	No
Bath	Plasterboard	Bulk Insulation R3.5	No

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	Added insulation	n (R-value)		Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective S	ide Down, Anti-glare Up R	1.4	0.85	Dark



### **Explanatory notes**

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### Glossary

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	the predicted an oblink of order gy required 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 dow nlights, 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.				
	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.				
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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 10m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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				
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.				
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				
NOOT 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.				
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 heat 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				
vertical stidulity realures	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).				

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866372

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address

Lot/DP

Type

Unit G.01, 25-27 Warriewood rd Warriewood, NSW, 2102

NCC Class\*

1A

5464

New Dwelling

## Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

## Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	87.0
Unconditioned*	0.0
Total	87.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email

David Howard Partners Energy Management david@partnersenergy.com.au 0421381005

Accreditation No.

Assessor Accrediting Organisation

ABSA

Phone

**Declaration of interest** 

Declaration completed: no conflicts

## The more stars the more energy efficient IONWIDF ENERGY RATING SCHEME

## 72.6 MJ/m<sup>2</sup>

R

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	Cooli
14.4	28.2
VIJ/m <sup>2</sup>	MJ/m

# inc

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

### National Construction Code (NCC) requirements

20039

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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINDOW ID	Description U-value*		3660	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73	

#### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
No Data Availat	ole					



...

## Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Bedroom Master	ALM-001-01 A	n/a	2800	1300	n/a	00	SE	No
Bedroom Master	ALM-001-01 A	n/a	2800	1800	n/a	00	SW	No
Bedroom Master	ALM-002-01 A	n/a	2700	600	n/a	90	SW	No
Ens	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Bedroom 2	ALM-001-01 A	n/a	2800	1300	n/a	00	SE	No
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Kitchen/Living	ALM-001-01 A	n/a	2800	4800	n/a	70	SW	No

## Roof window type and performance

### Default\* roof windows

Window ID	Wind	ow	Maxin	num	SUCC*	Substitution tolerance r		anges	
window ID	Desc	ription	U-val	ue* SHGC*		SHGC lo	ower limit	SHGC	upper limit
No Data Av	ailable								
Custom* ro	of windows								
Window ID	Wind	ow	Maxin	num	SUCC*	Sub	stitution to	lerance r	anges
window iD	Desc	ription	U-val	ue*	Je* SHGC*		ower limit	SHGC	upper limit
No Data Av	ailable								
Roof w	vindow s	schedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outd shad		Indoor shade
No Data Av	ailable								
Skyligl	h <b>t</b> type a	nd perforr	mance						
Skylight ID	)		Skylight de	scription					
No Data Av	ailable								
Skyligl	h <b>t</b> sched	ule							
Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²) Orie	ntation	Outdoor shade	Diffuser		ight shaft lectance

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
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3095	SE	0	NO
Bedroom Master	EW-1	2800	3300	SW	800	NO
Bedroom Master	EW-1	2800	1200	NW	8700	YES
Ens	EW-1	2800	3690	SE	0	NO
Bedroom 2	EW-1	2800	3545	SE	0	NO
Kitchen/Living	EW-1	2800	6195	SW	2000	YES

## Internal wall type

Wall ID	Wall type	<b>A</b> rea (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		73.00	No insulation
IW-2 - Concrete Panel/Blocks filled, multi plaster layers		28.00	No Insulation
IW-3 - Concrete Panel/Blocks filled, plasterboard		24.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Bedroom Master	Suspended Concrete Slab 150mm	10.00 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Ens	Suspended Concrete Slab 150mm	5.60 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Bedroom 2	Suspended Concrete Slab 150mm	11.20 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Bath/Ldry	Suspended Concrete Slab 150mm	8.00 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Kitchen/Living	Suspended Concrete Slab 150mm	48.50 Enclosed	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
WIR	Suspended Concrete Slab 150mm	4.20 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm



## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom Master	Concrete, Plasterboard	No insulation	No
Ens	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bath/Ldry	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No
WIR	Concrete, Plasterboard	No insulation	No

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsea	aled
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (	mm)
No Data Available					
Roof type					
Construction	Added insula	tion (R-value)	Sola	ar absorptance	Roof shade
None Present					



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Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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 generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also know n 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).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866414

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address Lot/DP

Unit G.02, 25-27 Warriewood rd . Warriewood, NSW, 2102 5464

NCC Class\*

1A

Type

### New Dwelling

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

## Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	108.0
Unconditioned*	0.0
Total	108.0
Garage	0.0

NatHERS climate zone

Suburban

**Exposure Type** 

## ccredited assessor

Name **Business name** Email Phone

Accreditation No.

Assessor Accrediting Organisation

**Declaration of interest** 

Partners Energy Management david@partnersenergy.com.au

0421381005

David Howard

20039

ABSA

Declaration completed: no conflicts

## The more stars the more energy efficient IONWIDE ENERGY RATING SCHEME

## 57.9 MJ/m<sup>2</sup>

R

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

leating 04	C
0.7	2
/IJ/m <sup>2</sup>	Ν

Cooling 27.2 /J/m<sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=uNbQvRZVy. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	

#### Custom\* windows

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

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	1800	n/a	00	SW	No

\* Refer to glossary.

0004866414 NatHERS Certificate		5.5 Star Rat	5.5 Star Rating as of 26 May 2020					
Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2700	600	n/a	90	SW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	4000	n/a	45	SW	No
Bedroom 2	ALM-001-01 A	n/a	2800	1800	n/a	00	SW	No
Bedroom 2	ALM-001-01 A	n/a	2700	600	n/a	90	SW	No

## Roof window type and performance

### Default\* roof windows

Window ID	Window	Maximum	SU/20*	Substitution tolerance ranges		
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availat	ole					
Custom* roof w	vindows					
Mindow ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
Window ID	Description	U-value*		SHGC lower limit	SHGC upper limit	

## 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	

#### Skylight Skylight Skylight Outdoor Skylight shaft Area shaft length Orientation Diffuser Location reflectance ID No. $(m^{2})$ shade (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	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3595	SW	1075	NO
Bedroom Master	EW-1	2800	700	SE	0	NO
Kitchen/Living	EW-1	2800	4795	SW	2425	YES
Bedroom 2	EW-1	2800	3295	SW	1050	NO
Bedroom 2	EW-1	2800	1400	NW	7100	YES

## Internal wall type

Wall ID	Wall type	<b>A</b> rea (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		77.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		51.00	No Insulation
W-3 - Concrete Panel/Blocks filled, multi plaster layers		37.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Bedroom Master	Suspended Concrete Slab 150mm	25.60 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Ens	Suspended Concrete Slab 150mm	6.30 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Kitchen/Living	Suspended Concrete Slab 150mm	52.40 Enclosed	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Bedroom 2	Suspended Concrete Slab 150mm	12.40 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Ldry	Suspended Concrete Slab 150mm	1.80 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Bath	Suspended Concrete Slab 150mm	9.20 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm

## Ceiling type

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

0004866414 NatHERS Cer	tificate	5.5 Star Rating as of	f 26 May 2020		HOUSE
Location	Constructior material/type	•	Bulk insulation R-va (may include edge b		Reflective wrap*
Bath	Concrete, Pla	sterboard	No insulation		No
Ceiling penetr	rations*				
Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	Added insulat	ion (R-value)	S	Solar absorptance F	Roof shade
None Present					



### **Explanatory notes**

#### About this report

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

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

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

#### Accredited assessors

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

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

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

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

#### Disclaimer

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

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

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

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

### Glossary

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 dow nlights, 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 and	
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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
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
	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 heat gain coemcient (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).

## Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866430

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

## Property

Address Lot/DP

Unit G.03, 25-27 Warriewood rd . Warriewood, NSW, 2102

NCC Class\*

Type

1A

New Dwelling

5464

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

## Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	85.0
Unconditioned*	0.0
Total	85.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

## ccredited assessor

Name **Business name** Email

**David Howard** Partners Energy Management david@partnersenergy.com.au 0421381005

20039

Accreditation No.

### Assessor Accrediting Organisation

ABSA

Phone

**Declaration of interest** 

Declaration completed: no conflicts



## 58.5 MJ/m<sup>2</sup>

R

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
30.5	28.0
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

### About the rating

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

## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=uXwCgyCzu. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

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

#### Custom\* windows

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

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	1800	n/a	00	SW	No

\* Refer to glossary.

### 0004866430 NatHERS Certificate

### 5.4 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	SW	No
Bedroom Master	ALM-001-01 A	n/a	2800	2000	n/a	30	NW	No
Bedroom 2	ALM-001-01 A	n/a	2800	1300	n/a	00	NW	No
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	4600	n/a	65	SW	No
Ens	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No

## Roof window type and performance

### Default\* roof windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window ID	Description	U-value*	U-value* SHGC		SHGC upper limit	
No Data Availat	ble					
Custom* roof w	vindows					
Window ID	Window	Maximum	SUCC*	Substitution to	lerance ranges	
	Description U-value* SHGC*	SHGC lower limit	SHGC upper limit			

## 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 Availa	able					
Skylight	sched	lule				
		01-11-1-4	Skylight	A	Outland	

Location	Skylight ID	No.	shaft length (mm)	Area (m²)	Orientation	shade	Diffuser	reflectance
No Data Av	ailable							
Extern	al 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	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes
EW-2	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	1700	SE	8400	YES
Bedroom Master	EW-1	2800	3600	SW	800	NO
Bedroom Master	EW-1	2800	2995	NW	0	NO
Bedroom 2	EW-1	2800	3695	NW	0	NO
Kitchen/Living	EW-1	2800	5795	SW	2500	YES
Ens	EW-2	2800	3690	NW	0	NO

## Internal wall type

Wall ID	Wall type	<b>A</b> rea (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		68.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		43.00	No Insulation
IW-3 - Brick, plasterboard		3.00	No Insulation
IW-4 - Concrete Panel/Blocks filled, multi plaster layers		4.00	No Insulation

## Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Bedroom Master	Suspended Concrete Slab 150mm	15.00 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Bedroom 2	Suspended Concrete Slab 150mm	10.80 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Bath/ldry	Suspended Concrete Slab 150mm	9.00 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Kitchen/Living	Suspended Concrete Slab 150mm	43.60 Enclosed	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Ens	Suspended Concrete Slab 150mm	6.30 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom Master	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No
Bath/ldry	Concrete, Plasterboard	No insulation	No



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

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsea	aled
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	Added insulat	ion (R-value)	Sola	ar 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

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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 dow nlights, 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		
	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		
	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).		
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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.		
<b>*</b>	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		
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.		
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		
	generally does not have a diffuser.		
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.		
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.		
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released		
	inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.		
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.		
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.		
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.		
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).		

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866455

Unit G.04, 25-27 Warriewood rd .

Warriewood, NSW, 2102

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

# Property

Address Lot/DP

5464

NCC Class\* Type 1A

New Dwelling

# Plans

Main Plan Warr Prepared by VIA

Warriewood Residential Development

# **Construction and environment**

## Assessed floor area (m<sup>2</sup>)\*

Conditioned*	90.0
Unconditioned*	0.0
Total	90.0
Garage	0.0

Exposure Type
Suburban
NatHERS climate zone

# Accredited assessor

Name Business name Email Phone

Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

000433

Partners Energy Management

david@partnersenergy.com.au

David Howard

0421381005

20039

Declaration completed: no conflicts



# 35.4 MJ/m<sup>2</sup>

R

ENERGY RATING SCHEME

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
6.2	29.2
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

## About the rating

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

# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=xxwppgrZH. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	findow Maximum SHGC*		Substitution to	lerance ranges
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60

### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3600	SHGC lower limit	SHGC upper limit	

No Data Available

# Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	1000	n/a	00	NW	No

\* Refer to glossary.

0004866455 NatHERS Certificate

## 7.3 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2700	900	n/a	00	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	3200	n/a	65	NE	No
Bedroom 2	ALM-001-01 A	n/a	2800	1300	n/a	00	NE	No
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	NE	No

# Roof window type and performance

## Default\* roof windows

Window ID Window		WC	Maximum		SHGC*	Substitution tolerance ranges		
window ID	Desc	Description U-value* SHGC		SHGC	SHGC I	ower limit	SHGC upper limi	
No Data Av	ailable							
Custom* rc	of windows							
Window ID	Wind		Maxin		SHGC*			lerance ranges
	Desc	ription	U-val	ue*		SHGC I	ower limit	SHGC upper limit
No Data Av	ailable							
Roof w	vindow s	schedule						
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outd shade	
No Data Av		nd perforr	mance			_		
Skylig	h <b>t</b> type a	nd perforr	Mance Skylight de	scription		_		
Skyligl	ht type a	nd perforr		scription				
<b>Skyligl</b> Skylight ID No Data Av	ht type a			scription				
Skylight ID Skylight ID No Data Av Skyligl	ht type a			Area	ntation	Outdoor shade	Diffuser	Skylight shaft reflectance
Skylight ID Skylight ID No Data Av Skyligl Location	ht type a ailable ht sched Skylight ID	Ule Skylight	Skylight de Skylight shaft length	Area Orior	ntation		Diffuser	
Skylight ID Skylight ID No Data Av Skyligh Location No Data Av	ht type a ailable ht sched Skylight ID ailable	Ule Skylight	Skylight de Skylight shaft length	Area Orior	ntation		Diffuser	



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

No Data Available

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

# External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3795	NW	0	NO
Kitchen/Living	EW-1	2800	9195	NW	0	NO
Kitchen/Living	EW-1	2800	3995	NE	1900	NO
Bedroom 2	EW-1	2800	3095	NE	1900	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		40.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		67.00	No insulation
IW-3 - Concrete Panel/Blocks filled, multi plaster layers		16.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilation	Added insulation (R-value)	Covering
Ens	Concrete Slab, Unit Below 150mm	4.70 None	No Insulation	Ceramic Tiles 8mm
Bedroom Master	Concrete Slab, Unit Below 150mm	14.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living	Concrete Slab, Unit Below 150mm	52.50 None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 2	Concrete Slab, Unit Below 150mm	11.50 None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 150mm	5.60 None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab, Unit Below 150mm	0.70 None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

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



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

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	
No Data Available					
Roof type					
Construction	ŀ	Added insulation (R-val	ue)	Solar absorptance	Roof shade
Waterproofing Membrane	Ν	lo Insulation, Only an Air	Gap	0.50	Medium



# **Explanatory notes**

## About this report

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

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

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

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	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						
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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 10m e.g. suburban housing, heavily vegetated bushland areas.						
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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						
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<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.						
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 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.						
Color hast usin coefficient (CLICC)	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 know n 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.						
Vortical chading factures	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).						

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866489

Unit G.05, 25-27 Warriewood rd .

Warriewood, NSW, 2102

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

# Property

Address Lot/DP

5464

NCC Class\*

Туре

1A

New Dwelling

# Plans

Main Plan Prepared by

Warriewood Residential Development

# **Construction and environment**

## Assessed floor area (m<sup>2</sup>)\*

Conditioned*	94.0
Unconditioned*	0.0
Total	94.0
Garage	0.0

Exposure Type
Suburban
NatHERS climate zone

# Accredited assessor

Name Business name Email Phone

david@partnersenergy.com.au 0421381005

20039

**David Howard** 

Accreditation No.

## Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts

Partners Energy Management



# 31.7 MJ/m<sup>2</sup>

R

ENERGY RATING SCHEME

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

leating	Cooling
15.4	16.3
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

## About the rating

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

# Verification

To verify this certificate, scan the QR code or visit



hstar.com.au/QR/Generate? p=KkflouTQW. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	

### Custom\* windows

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

No Data Available

# Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Kitchen/Living	ALM-001-01 A	n/a	2800	3600	n/a	45	NE	No	

\* Refer to glossary.

0004866489 NatHERS	Certificate	7.5 Star Rat	7.5 Star Rating as of 26 May 2020						
Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Bedroom Master	ALM-001-01 A	n/a	2800	1800	n/a	00	NE	No	
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	NE	No	
Bedroom 2	ALM-001-01 A	n/a	2700	1300	n/a	00	NE	No	
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	NE	No	

# Roof window type and performance

## Default\* roof windows

scription	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
Window Maximu		SUCC*	Substitution tolerance ranges		
scription	U-value*	SHOC	SHGC lower limit	SHGC upper limit	
			SHGC*	waxintian SHGC*	

# Roof window schedule

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

# Skylight type and performance

Skylight ID	Skylight description
No Data Available	
Skylight schedule	

#### Skylight Skylight Skylight Outdoor Skylight shaft Area shaft length Orientation Diffuser Location reflectance ID No. $(m^{2})$ shade (mm) No Data Available

# External door schedule

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



# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

# 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	2800	5195	NE	3200	YES
Bedroom Master	EW-1	2800	3095	NE	1700	NO
Bedroom Master	EW-1	2800	1500	SE	1400	NO
Bedroom 2	EW-1	2800	1500	NW	7400	YES
Bedroom 2	EW-1	2800	3095	NE	1700	NO

# Internal wall type

Wall ID	Wall type	<b>Area</b> (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		74.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		40.00	No Insulation
IW-3 - Concrete Panel/Blocks filled, multi plaster layers		35.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Kitchen/Living	Suspended Concrete Slab 150mm	50.10 Enclosed	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Bath	Suspended Concrete Slab 150mm	6.60 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Ens	Suspended Concrete Slab 150mm	6.50 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Bedroom Master	Suspended Concrete Slab 150mm	17.80 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Bedroom 2	Suspended Concrete Slab 150mm	11.10 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Ldry	Suspended Concrete Slab 150mm	1.50 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm

# Ceiling type

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

0004866489 NatHERS C	Certificate	7.5 Star Rating as	of 26 May 2020		HOUVE
Location	Construction material/type	•	Bulk insulation R-val (may include edge ba		Reflective wrap*
Ldry	Concrete, Pla	asterboard	No insulation		No
Ceiling pene	trations*				
Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsea	led
No Data Available					
Ceiling fans					
Location		Quantity	,	Diameter (n	nm)
No Data Available					
Roof type					
Construction	Added insula	tion (R-value)	S	olar 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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## 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 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 sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category - suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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 generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also know n 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).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866521

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

# Property

Address Lot/DP Unit G.06, 25-27 Warriewood rd , Warriewood , NSW , 2102

NCC Class\*

Туре

5464 1A

New Dwelling

# Plans

Main Plan Prepared by

Warriewood Residential Development

David Howard

0421381005

20039

# **Construction and environment**

## Assessed floor area (m<sup>2</sup>)\*

Conditioned*	110.0
Unconditioned*	0.0
Total	110.0
Garage	0.0

Suburban NatHERS climate zone

**Exposure Type** 

# Accredited assessor

Name Business name Email

Phone

Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Partners Energy Management

david@partnersenergy.com.au

Declaration completed: no conflicts



# 47.5 MJ/m<sup>2</sup>

R

ENERGY RATING SCHEME

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

leating	4
1.7	
/J/m <sup>2</sup>	

Cooling 15.8 MJ/m<sup>2</sup>

## About the rating

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

# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=MKzsnfJRN. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

## Window and glazed door type and performance

#### Default\* windows

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

### Custom\* windows

Window ID	Window	Maximum	SHGC*	Substitution to	Substitution tolerance ranges		
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit		

No Data Available

# Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	n/a	2800	4000	n/a	65	NE	No

\* Refer to glossary.

0004866521 NatHERS Certificate

## 6.3 Star Rating as of 26 May 2020



Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
ALM-001-01 A	n/a	2800	1400	n/a	00	SE	No
ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
ALM-001-01 A	n/a	2800	4400	n/a	45	NE	No
ALM-001-01 A	n/a	2800	1500	n/a	00	SE	No
ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
ALM-001-01 A	n/a	2800	1300	n/a	00	SE	No
ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
	ID ALM-001-01 A ALM-001-01 A ALM-001-01 A ALM-001-01 A ALM-001-01 A ALM-001-01 A	ID         no.           ALM-001-01 A         n/a           ALM-001-01 A         n/a	ID         no.         (mm)           ALM-001-01 A         n/a         2800           ALM-001-01 A         n/a         2800	ID         no.         (mm)         (mm)           ALM-001-01 A         n/a         2800         1400           ALM-001-01 A         n/a         2800         600           ALM-001-01 A         n/a         2800         1500           ALM-001-01 A         n/a         2800         600           ALM-001-01 A         n/a         2800         1500           ALM-001-01 A         n/a         2800         600	ID         no.         (mm)         (mm)         type           ALM-001-01 A         n/a         2800         1400         n/a           ALM-001-01 A         n/a         2800         600         n/a           ALM-001-01 A         n/a         2800         600         n/a           ALM-001-01 A         n/a         2800         600         n/a           ALM-001-01 A         n/a         2800         100         n/a           ALM-001-01 A         n/a         2800         600         n/a           ALM-001-01 A         n/a         2800         1500         n/a           ALM-001-01 A         n/a         2800         1500         n/a           ALM-001-01 A         n/a         2800         1300         n/a	ID         no.         (mm)         (mm)         type         %           ALM-001-01 A         n/a         2800         1400         n/a         00           ALM-001-01 A         n/a         2800         600         n/a         90           ALM-001-01 A         n/a         2800         1500         n/a         90           ALM-001-01 A         n/a         2800         1500         n/a         90           ALM-001-01 A         n/a         2800         1500         n/a         90           ALM-001-01 A         n/a         2800         1300         n/a         00	ID         no.         (mm)         (mm)         type         %         Orientation           ALM-001-01 A         n/a         2800         1400         n/a         00         SE           ALM-001-01 A         n/a         2800         600         n/a         90         SE           ALM-001-01 A         n/a         2800         1500         n/a         90         SE           ALM-001-01 A         n/a         2800         1500         n/a         90         SE           ALM-001-01 A         n/a         2800         1300         n/a         90         SE           ALM-001-01 A         n/a         2800         1300         n/a         00         SE

# Roof window type and performance

## Default\* roof windows

Window ID Window		Maxin	Maximum SHGC*		Substitution tolerance ranges			
window iD	Desc	ription	U-value*		SHGC	SHGC I	ower limit	SHGC upper limi
No Data Av	ailable							
Custom* rc	of windows							
Window ID	Wind	•	Maxin		SHGC*	Sub	ostitution to	lerance ranges
	Desc	ription	U-val	ue*		SHGC I	ower limit	SHGC upper limi
No Data Av	ailable							
Roof w	vindow s	schedule						
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outd shade	
		nd perforr	mance			_		
Skylig	h <b>t</b> type a	nd perforr	Mance Skylight de	scription		_		
Skylight ID	ht type a	nd perforr		scription		_		
<b>Skyligl</b> Skylight ID No Data Av	ht type a	·		scription		_		
Skylight ID Skylight ID No Data Av Skyligl	ht type a	·		Δrea	ntation	Outdoor shade	Diffuser	Skylight shaft reflectance
Skylight ID Skylight ID No Data Av Skyligh Location	ht type a ailable ht sched Skylight ID	Ule Skylight	Skylight de Skylight shaft length	Area Orio	ntation		Diffuser	
Skylight ID No Data Av Skyligi Location No Data Av	ht type a ailable ht sched Skylight ID ailable	Ule Skylight	Skylight de Skylight shaft length	Area Orio	ntation		Diffuser	



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

No Data Available

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

# 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	2800	5595	NE	3300	YES
Kitchen/Living	EW-1	2800	3090	SE	0	YES
Ens	EW-1	2800	3031	SE	25	YES
Bedroom Master	EW-1	2800	1600	NW	9400	YES
Bedroom Master	EW-1	2800	5200	NE	1700	NO
Bedroom Master	EW-1	2800	3368	SE	25	YES
Bedroom 2	EW-1	2800	3045	SE	0	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, multi plaster layers		55.00	No Insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		5.00	No Insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		90.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Bath 1	Suspended Concrete Slab 150mm	7.10 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Store/Idry	Suspended Concrete Slab 150mm	6.80 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Kitchen/Living	Suspended Concrete Slab 150mm	56.60 Enclosed	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Ens	Suspended Concrete Slab 150mm	7.30 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Bedroom Master	Suspended Concrete Slab 150mm	20.60 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Bedroom 2	Suspended Concrete Slab 150mm	11.90 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm



# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bath 1	Concrete, Plasterboard	No insulation	No
Store/Idry	Concrete, Plasterboard	No insulation	No
Kitchen/Living	Concrete, Plasterboard	No insulation	No
Ens	Concrete, Plasterboard	No insulation	No
Bedroom Master	Concrete, Plasterboard	No insulation	No
Bedroom 2	Concrete, Plasterboard	No insulation	No

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsea	aled
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (	mm)
No Data Available					
Roof type					
Construction	Added insula	tion (R-value)	Sola	r absorptance	Roof shade
None Present					



# **Explanatory notes**

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Esture a de se	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 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m.e.g. city and industrial areas.
l la viena veta la cha a live veta a terra	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper
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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
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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.
	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.
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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.
	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866562

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

# Property

Address Lot/DP

Unit G.07, 25-27 Warriewood rd . Warriewood, NSW, 2102 5464

NCC Class\*

1A

Type

## New Dwelling

# Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

**Exposure Type** 

NatHERS climate zone

Suburban

# Construction and environme

## Assessed floor area (m<sup>2</sup>)\*

Conditioned*	102.0
Unconditioned*	0.0
Total	102.0
Garage	0.0

# ccredited assessor

Name **Business name** Email Phone

Accreditation No.

Assessor Accrediting Organisation

David Howard

Partners Energy Management david@partnersenergy.com.au

0421381005

20039

ABSA

**Declaration of interest** 

Declaration completed: no conflicts



# 45.8 MJ/m<sup>2</sup>

R

ENERGY RATING SCHEME

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	Coolin
16.9	28.9
MJ/m <sup>2</sup>	MJ/m <sup>2</sup>

## About the rating

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

# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=loyxtxMem. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum SHGC		Substitution to	lerance ranges
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60

### Custom\* windows

Window ID	Window	Maximum	Maximum SHGC*	Substitution to	lerance ranges
	Description	U-value*	3600	SHGC lower limit	SHGC upper limit

No Data Available

# Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Kitchen/Living	ALM-001-01 A	n/a	2800	1200	n/a	00	NW	No	-

\* Refer to glossary.

0004866562 NatHERS Certificate

## 6.4 Star Rating as of 26 May 2020



							device*
ALIVI-001-01 A	n/a	2800	600	n/a	90	NW	No
ALM-001-01 A	n/a	2800	6000	n/a	45	NE	No
ALM-001-01 A	n/a	2800	1200	n/a	00	NW	No
ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
ALM-001-01 A	n/a	2800	1500	n/a	00	NE	No
ALM-001-01 A	n/a	2800	600	n/a	90	NE	No
ALM-001-01 A	n/a	2800	900	n/a	00	NW	No
ALM-001-01 A	n/a	2800	600	n/a	90	NW	No
	LM-001-01 A LM-001-01 A LM-001-01 A LM-001-01 A LM-001-01 A	LM-001-01 A n/a LM-001-01 A n/a LM-001-01 A n/a LM-001-01 A n/a LM-001-01 A n/a LM-001-01 A n/a	LM-001-01 A         n/a         2800           LM-001-01 A         n/a         2800	LM-001-01 A         n/a         2800         6000           LM-001-01 A         n/a         2800         1200           LM-001-01 A         n/a         2800         600           LM-001-01 A         n/a         2800         900	LM-001-01 A       n/a       2800       6000       n/a         LM-001-01 A       n/a       2800       1200       n/a         LM-001-01 A       n/a       2800       600       n/a         LM-001-01 A       n/a       2800       600       n/a         LM-001-01 A       n/a       2800       1500       n/a         LM-001-01 A       n/a       2800       600       n/a         LM-001-01 A       n/a       2800       600       n/a         LM-001-01 A       n/a       2800       900       n/a	LM-001-01 A       n/a       2800       6000       n/a       45         LM-001-01 A       n/a       2800       1200       n/a       00         LM-001-01 A       n/a       2800       600       n/a       90         LM-001-01 A       n/a       2800       1500       n/a       00         LM-001-01 A       n/a       2800       600       n/a       90         LM-001-01 A       n/a       2800       600       n/a       90         LM-001-01 A       n/a       2800       600       n/a       90         LM-001-01 A       n/a       2800       900       n/a       00	LM-001-01 A         n/a         2800         6000         n/a         45         NE           LM-001-01 A         n/a         2800         1200         n/a         00         NW           LM-001-01 A         n/a         2800         600         n/a         90         NW           LM-001-01 A         n/a         2800         600         n/a         90         NW           LM-001-01 A         n/a         2800         600         n/a         90         NE           LM-001-01 A         n/a         2800         600         n/a         00         NE           LM-001-01 A         n/a         2800         600         n/a         90         NE           LM-001-01 A         n/a         2800         900         n/a         00         NW

# Roof window type and performance

## Default\* roof windows

MendauriD	Windo	w	Maxin	num	CUCC*	Substitution toleranc		erance ranges
Window ID	Desc	ription	U-val	alue* SHGC*		SHGC lo	ower limit	SHGC upper limit
No Data Av	ailable							
Custom* ro	of windows							
Window ID	Windo		Maxin		SHGC*	Sub	stitution tol	erance ranges
		ription	U-val	ue^		SHGC lo	ower limit	SHGC upper limit
No Data Av	ailable							
Roof w	<b>/indow</b> ક	schedule						
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdo shade	
No Data Av	ailable							
Skyligl	nt type a	nd perforn	nance Skylight des	scription		_		
<b>Skyligl</b> Skylight ID	nt type a	nd perforn		scription		_		
Skyligl Skylight ID No Data Avi	nt type a	·		scription				
Skyligl Skylight ID No Data Ava Skyligl	<b>nt</b> type a	·		Aroa	ntation	Outdoor shade	Diffuser	Skylight shaft reflectance
Skylight ID Skylight ID No Data Avi Skyligh Location	nt type a ailable nt schede Skylight ID	U/C Skylight	Skylight des Skylight shaft length	Area Orio	ntation		Diffuser	
Skylight ID No Data Ava Skyligi Location No Data Ava	nt type a ailable nt schede Skylight ID	U/C Skylight No.	Skylight des Skylight shaft length	Area Orio	ntation		Diffuser	



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

No Data Available

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

# 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	2800	3148	NW	0	NO
Kitchen/Living	EW-1	2800	6095	NE	2300	YES
Bedroom Master	EW-1	2800	4595	NW	0	NO
Bedroom Master	EW-1	2800	2995	NE	800	YES
Ens	EW-1	2800	1700	NE	400	NO
Ens	EW-1	2800	1900	SE	8700	YES
Ens	EW-1	2800	400	NW	3000	YES
Bedroom 2	EW-1	2800	3221	NW	0	YES

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		56.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		69.00	No insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Bath	Suspended Concrete Slab 150mm	8.50 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Kitchen/Living	Suspended Concrete Slab 150mm	60.20 Enclosed	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Bedroom Master	Suspended Concrete Slab 150mm	16.90 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Ens	Suspended Concrete Slab 150mm	4.70 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Bedroom 2	Suspended Concrete Slab 150mm	11.40 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm

# Ceiling type

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

6.4 Star Rating as of 26 May 2020



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

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unseal	ed
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (m	ım)
No Data Available					
Roof type					
Construction	Added insulat	ion (R-value)	Sola	r absorptance	Roof shade
None Present					



# **Explanatory notes**

### About this report

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

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

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

#### Accredited assessors

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

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

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

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

#### Disclaimer

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

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

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

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

## Glossary

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 dow nlights, 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).					
	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 10m e.g. suburban housing, heavily vegetated bushland areas.					
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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.					
	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 know n 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 chading factures	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).					

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866596

Unit G.08, 25-27 Warriewood rd

Warriewood, NSW, 2102

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

# Property

Address Lot/DP

5464

NCC Class\*

1A

## Type

New Dwelling

## Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

# Construction and environme

## Assessed floor area (m<sup>2</sup>)\*

Conditioned*	85.0
Unconditioned*	0.0
Total	85.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

# ccredited assessor

Name **Business name** 

Email

Phone

Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

0421381005 20039

Partners Energy Management

david@partnersenergy.com.au

**David Howard** 

Declaration completed: no conflicts



# 36.0 MJ/m<sup>2</sup>

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ENERGY RATING SCHEME

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

-leating	Coo
9.0	27.0
VIJ/m <sup>2</sup>	MJ/r

lina m²

## 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

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

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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.

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## **Additional notes**

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

Due to non current Window Library the glazing descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	

### Custom\* windows

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

No Data Available

# Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Bedroom Master	ALM-001-01 A	n/a	2800	3000	n/a	45	NE	No	

\* Refer to glossary.

0004866596 N	atHERS Certif	icate	7.3 Star Rati	ng as of 26 N	May 2020					NATION WIDE HOUSE	
Location	W ID	indow	Window no.	Height (mm)	Width (mm)	Window type	v Opening %	Orienta	ation	Window shading device*	
Kitchen/Livin	g AL	_M-001-01 A	n/a	2800	5200	n/a	45	NE		No	
Roof w	indow t	ype and p	erformal	nce							
Default* roof	windows										
Window ID	Windo Desci	ow ription		Maximum U-value*		SHGC*	Subs SHGC lov	<b>titution to</b> ver limit		ranges C upper limi	
No Data Avai	ilable										
Custom* roo	fwindows										
Window ID	Windo	ow ription		Maximum U-value*		SHGC*		titution to		-	
No Data Avai							SHGC lov	ver limit	SHG	C upper limi	
Location	Window ID	Window no.	Open %	-	eight (mm)	Width (mm)	Orientation	Outde shade		Indoor shade	
Skyligh	<b>t</b> type a	nd perforr	mance				_				
Skylight ID			Skylig	Iht descript	tion						
No Data Avai	ilable										
Skyligh	t sched	ule									
	Skylight	Skylight	Skylight shaft leng			ation	Outdoor r	Diffuser		light shaft flectance	
Location	ID	No.	(mm)	<sup>th</sup> (m <sup>2</sup> )	Orient	allon	shade	Jinuser	re	neclance	
		No.		<sup>th</sup> (m <sup>2</sup> )	Orient	ation	shade <sup>L</sup>	Jinuser	Te		
No Data Avai	ilable	No.		<sup>tn</sup> (m²)	Orien		shade -		Te		
No Data Avai <b>Externa</b>	ilable		(mm)	<sup>tn</sup> (m²) Width	,		Shade		ntation	neciance	
No Data Avai <b>Externa</b> Location	ilable	schedule	(mm)	(117)	,		snade				
Location No Data Avai	ilable	Schedule Height (m	(mm)	(117)	,		snade				
No Data Avai <b>Externa</b> Location No Data Avai	ilable Il door s ilable Il wall ty	Schedule Height (m	(mm) m) Wall s	Width	,	sulation	snade		ntation	flective Il wrap*	

\* Refer to glossary. Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21) for Unit G.08, 25-27 Warriew ood rd , Warriew ood , NSW , 2102



# External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	1200	NW	5000	NO
Bedroom Master	EW-1	2800	3600	NE	1525	NO
Kitchen/Living	EW-1	2800	6895	NE	1550	NO
Kitchen/Living	EW-1	2800	900	SE	2900	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Concrete Panel/Blocks filled, plasterboard		78.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		37.00	No insulation

# Floor type

Location	ocation Construction		Added insulation n (R-value)	Covering	
Bath/ldry	Suspended Concrete Slab 150mm	11.70 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm	
Bedroom Master	Suspended Concrete Slab 150mm	15.50 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm	
Kitchen/Living	Suspended Concrete Slab 150mm	57.50 Enclosed	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm	

# Ceiling type

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

# **Ceiling** penetrations\*

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

No Data Available



# Roof type

Construction

on Added insulation (R-value)

Roof shade

Solar absorptance

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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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 softw are and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

## Glossary

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.
Colling popotrotions	features that require a penetration to the ceiling, including dow nlights, 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 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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.
Color hast usin coefficient (CLICC)	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 know n 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.
Vortical chading factures	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866612

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

# Property

Address Lot/DP Unit G.09, 25-27 Warriewood rd , Warriewood , NSW , 2102 5464

NCC Class\*

Туре

1A

New Dwelling

# Plans

Main Plan Prepared by

Warriewood Residential Development

# **Construction and environment**

## Assessed floor area (m<sup>2</sup>)\*

Conditioned*	130.0
Conditioned	130.0
Unconditioned*	10.0
Total	141.0
Garage	0.0

Suburban
NatHERS climate zone

**Exposure Type** 

# Accredited assessor

Name Business name Email David Howard Partners Energy Management david@partnersenergy.com.au 0421381005

20039

Accreditation No.

Assessor Accrediting Organisation

ABSA

Phone

**Declaration of interest** 

Declaration completed: no conflicts



# 51.6 MJ/m<sup>2</sup>

R

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

leating	С
32.1	19
/JJ/m <sup>2</sup>	M

Cooling 19.5 VJ/m<sup>2</sup>

## About the rating

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

# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=FmiOtOdHE. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

## Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	

### Custom\* windows

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

No Data Available

# Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No

\* Refer to glossary.

0004866612 NatHERS Certificate

## 5.9 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	1800	n/a	00	SW	No
Bedroom Master	ALM-001-01 A	n/a	2800	600	n/a	90	SW	No
Kitchen/Living	ALM-001-01 A	n/a	2700	4000	n/a	45	SW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	1200	n/a	00	SE	No
Kitchen/Living	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Bath	ALM-001-01 A	n/a	2800	600	n/a	90	NE	No
Ldry	ALM-001-01 A	n/a	2800	600	n/a	90	NE	No
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Bedroom 2	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No
Bedroom 3	ALM-001-01 A	n/a	2800	600	n/a	90	NE	No
Bedroom 3	ALM-001-01 A	n/a	2800	1200	n/a	00	SE	No
Bedroom 3	ALM-001-01 A	n/a	2800	600	n/a	90	SE	No

# Roof window type and performance

## Default\* roof windows

Mindow ID	Wind	ow	Maxir	Maximum		Substitution tolerance ranges			
Window ID	Desc	ription	U-va	lue*	SHGC*	SHGC lo	ower limit	SHGC upper limit	
No Data Ava	ailable								
Custom* ro	of windows								
Window ID	Wind	ow	Maxir	num	SHGC*	Sub	stitution to	lerand	e ranges
	Desc	ription	U-va	lue*	31160	SHGC lo	ower limit	SH	GC upper limit
No Data Ava	ailable								
Roof w	vindow S Window ID	Schedule Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outd shad		Indoor shade
No Data Ava	ailable								
<b>Skyligh</b> Skylight ID	nt type a	nd perforr	Mance Skylight de	escription					
No Data Ava	ailable								
Skyliał	nt sched	ule							
Location	Skylight	Skylight	Skylight shaft length	Area (m²) Orie	ntation	Outdoor	Diffuser		kylight shaft

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

5.9 Star Rating as of 26 May 2020



# External door schedule

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

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

# External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	2000	NW	6800	YES
Bedroom Master	EW-1	2800	695	SW	2400	YES
Bedroom Master	EW-1	2800	3995	SE	100	NO
Bedroom Master	EW-1	2800	3000	SW	400	NO
Ens	EW-1	2800	3490	SE	75	NO
Kitchen/Living	EW-1	2800	5095	SW	2400	NO
Kitchen/Living	EW-1	2800	3290	SE	50	NO
Bath	EW-1	2800	1845	NE	6600	NO
Ldry	EW-1	2800	2690	NE	6600	NO
Bedroom 2	EW-1	2800	3690	SE	50	NO
Bedroom 3	EW-1	2800	3700	NE	6600	NO
Bedroom 3	EW-1	2800	3495	SE	25	NO

# Internal wall type

Wall ID	Wall type	<b>Area</b> (m <sup>2</sup> )	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		107.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		46.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Bedroom Master	Suspended Concrete Slab 150mm	19.30 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Ens	Suspended Concrete Slab 150mm	6.10 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Kitchen/Living	Suspended Concrete Slab 150mm	79.30 Enclosed	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Bath	Suspended Concrete Slab 150mm	6.20 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm

5.9 Star Rating as of 26 May 2020



Location	Construction	Area Sub-floor (m) ventilation	Added insulation n (R-value)	Covering
Ldry	Suspended Concrete Slab 150mm	4.00 Enclosed	Bulk Insulation in Contact with Floor R2	Calper Iomin
Bedroom 2	Suspended Concrete Slab 150mm	13.20 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet 10mm
Bedroom 3	Suspended Concrete Slab 150mm	12.60 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm

# Ceiling type

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

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsea	aled
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (ı	mm)
No Data Available					
Roof type					
Construction	Added insula	tion (R-value)	So	lar absorptance	Poof shade

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

 None Present
 None Present
 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.

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Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.				
, and a onergy roug	the predicted and drift of energy required for the purpose of the NathERS assessment. Note, this may not be consistent with the floor area in the				
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O liter and the first	features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes				
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	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it				
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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				
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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				
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Color hast usin as officiant (CLCC)	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 know n 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.				
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# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866646

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address Lot/DP

Unit G.10, 25-27 Warriewood rd . Warriewood, NSW, 2102 5464

NCC Class\*

1A

Type

New Dwelling

### Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	132.0
Unconditioned*	0.0
Total	132.0
Garage	0.0

**Exposure Type** Suburban NatHERS climate zone

# ccredited assessor

Name **Business name** Email

David Howard Partners Energy Management david@partnersenergy.com.au 0421381005

20039

Accreditation No.

Assessor Accrediting Organisation

ABSA

Phone

**Declaration of interest** 

Declaration completed: no conflicts

### The more stars the more energy efficient IONWIDF NAT ENERGY RATING SCHEME

# 35.8 MJ/m<sup>2</sup>

R

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

leating	
9.7	
1J/m <sup>2</sup>	

Cooling 16.1  $MJ/m^2$ 

### 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=NKokCVses. 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.

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#### Ceiling penetrations\*

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

#### Windows

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

#### 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".

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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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	

#### Custom\* windows

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

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2800	2100	n/a	45	SW	No

\* Refer to glossary.

0004866646 NatHERS	7.3 Star Rati	7.3 Star Rating as of 26 May 2020						
Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2700	600	n/a	90	SW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	4000	n/a	45	SW	No
Bedroom 2	ALM-001-01 A	n/a	2800	1800	n/a	45	SW	No
Bedroom 2	ALM-001-01 A	n/a	2700	600	n/a	90	SW	No

# Roof window type and performance

#### Default\* roof windows

Window ID	Window	Maximum	SUCC*	Substitution tolerance ranges		
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availal	ble					
Custom* roof w	vindows					
Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges	
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
	ble					

### Roof window schedule

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

### Skylight type and performance

Skylight ID	Skylight description
No Data Available	
Skylight schedule	

#### Skylight Skylight Skylight Outdoor Skylight shaft Area shaft length Orientation Diffuser Location reflectance ID No. $(m^{2})$ shade (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
ID	type	absorptance (colour)		(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3595	SW	900	NO
Bedroom Master	EW-1	2800	1500	SE	2000	NO
Kitchen/Living	EW-1	2800	4695	SW	2100	YES
Bedroom 2	EW-1	2800	3295	SW	900	NO
Bedroom 2	EW-1	2800	1200	NW	7100	YES

### Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		101.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		97.00	No Insulation

### Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Bedroom Master	Suspended Concrete Slab 150mm	32.30 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Ens	Suspended Concrete Slab 150mm	7.40 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Entry	Suspended Concrete Slab 150mm	4.20 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Ldry	Suspended Concrete Slab 150mm	6.20 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Kitchen/Living	Suspended Concrete Slab 150mm	57.80 Enclosed	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Bedroom 2	Suspended Concrete Slab 150mm	16.00 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Bath	Suspended Concrete Slab 150mm	8.00 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm

# Ceiling type

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



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

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsea	lled
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (r	nm)
No Data Available					
Roof type					
Construction	Added insulat	ion (R-value)	Sola	ar 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.

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.					
Account 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 floor area	design documents.					
Colling popotrotions	features that require a penetration to the ceiling, including dow nlights, 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, farmand 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 10m e.g. suburban housing, heavily vegetated bushland areas.					
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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					
<b>Reflective wrap</b> (also know n 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					
Rooi Willdow	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 hast goin coofficiant (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 know n 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.					
Vortical chading fosturas	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).					

# Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866661

Generated on 26 May 2020 using BERS Pro v4.4.0.1 (3.21)

### Property

Address

Unit G.11, 25-27 Warriewood rd . Warriewood, NSW, 2102 5464

NCC Class\*

1A

Type

Lot/DP

New Dwelling

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

### Construction and environme

### Assessed floor area (m<sup>2</sup>)\*

Conditioned*	99.0
Unconditioned*	0.0
Total	99.0
Garage	0.0

Suburban NatHERS climate zone

**Exposure Type** 

# ccredited assessor

Name **Business name** 

Email

Phone

**David Howard** Partners Energy Management david@partnersenergy.com.au 0421381005

20039

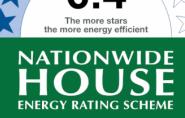
Accreditation No.

Assessor Accrediting Organisation

ABSA

**Declaration of interest** 

Declaration completed: no conflicts



# 45.3 MJ/m<sup>2</sup>

R

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

leating	Cooling
26.4	19.0
/J/m <sup>2</sup>	MJ/m <sup>2</sup>

About the rating

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

# Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?



p=XZFLtVKIY. 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 descriptiosn may not match actual products. Only the U and

SHGC values should be considered NOT the glazing descriptions.

### Window and glazed door type and performance

#### Default\* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60	

#### Custom\* windows

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

No Data Available

### Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*	
Bedroom Master	ALM-001-01 A	n/a	2800	900	n/a	00	NW	No	

\* Refer to glossary.

0004866661 NatHERS Certificate

#### 6.4 Star Rating as of 26 May 2020



Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Bedroom Master	ALM-001-01 A	n/a	2700	600	n/a	90	NW	No
Bedroom Master	ALM-001-01 A	n/a	2700	1500	n/a	00	SW	No
Bedroom Master	ALM-001-01 A	n/a	2700	600	n/a	90	SW	No
Ens	ALM-001-01 A	n/a	2700	600	n/a	90	NW	No
Bedroom 2	ALM-001-01 A	n/a	2800	1200	n/a	00	NW	No
Bedroom 2	ALM-001-01 A	n/a	2700	600	n/a	90	NW	No
Kitchen/Living	ALM-001-01 A	n/a	2800	4800	n/a	65	SW	No

# Roof window type and performance

#### Default\* roof windows

Window ID	Windov	Window		um	SHGC*	Subst	Substitution tolerance ranges		
window ID	Descrip	otion	U-value*		SHGC	SHGC low	er limit	SHGC upper limit	
No Data Ava	ilable								
Custom* roc	f windows								
Window ID Window		v	Maximum		SHGC*	Substitution tolerance ra           SHGC lower limit         SHGC u		erance ranges	
	Descrip	Description		U-value*				SHGC upper limit	
No Data Ava	ilable								
Roof w	indow so	hedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdo shade		
No Data Ava	ilable								

### Skylight type and performance

Skylight ID	Skylight description
No Data Available	
Skylight schedule	
	kylight

Location	Skylight ID	Skylight No.	shaft length (mm)	Area Orientat (m²)	on Outdoor shade	Diffuser	Skylight shaft reflectance	
No Data Av	ailable							
Extern	al door	schedule						

# Location Height (mm) Width (mm) Opening % Orientation No Data Available View of the second seco



### External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	(colour)	(R-value)	wall wrap*
EW-1	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	Yes

### External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Bedroom Master	EW-1	2800	3495	NW	0	NO
Bedroom Master	EW-1	2800	3395	SW	1800	NO
Ens	EW-1	2800	2545	NW	0	YES
Ens	EW-1	2800	1295	NW	0	YES
Bedroom 2	EW-1	2800	3711	NW	0	YES
Kitchen/Living	EW-1	2800	5595	SW	1800	NO

# Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		80.00	No insulation
IW-2 - Concrete Panel/Blocks filled, plasterboard		59.00	No Insulation

# Floor type

Location	Construction	Area Sub-floor (m <sup>2</sup> ) ventilatior	Added insulation (R-value)	Covering
Bedroom Master	Suspended Concrete Slab 150mm	15.90 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Ens	Suspended Concrete Slab 150mm	6.40 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Bedroom 2	Suspended Concrete Slab 150mm	13.70 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Kitchen/Living	Suspended Concrete Slab 150mm	50.80 Enclosed	Bulk Insulation in Contact with Floor R2	Cork Tiles or Parquetry 8mm
Ldry	Suspended Concrete Slab 150mm	3.10 Enclosed	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Bath	Suspended Concrete Slab 150mm	9.10 Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm

# Ceiling type

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

0004866661 NatHERS Ca	ertificate	6.4 Star Rating as o	of 26 May 2020		HOUSE
Location	Construction material/type	-	Bulk insulation R-val (may include edge ba		Reflective wrap*
Bath	Concrete, Pla	sterboard	No insulation		No
Ceiling penet	trations*				
Location	Quantity	Туре	Diameter (mm <sup>2</sup> )	Sealed/unsealed	I
No Data Available					
Ceiling fans					
Location		Quantity		Diameter (mm)	)
No Data Available					
Roof type					
Construction	Added insulat	ion (R-value)	s	olar absorptance	Roof shade
None Present					



### **Explanatory notes**

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	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.
Colling popotrotions	features that require a penetration to the ceiling, including dow nlights, 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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	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 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category - protected	terrain with numerous, closely spaced obstructions over 10 m.e.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 NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC 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 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.
	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 know n 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.
Vortical chading factures	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	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).