Nationwide House Energy Rating Scheme — Multiple Class1-dwelling summary NatHERS Certificate No. 0005556990

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

56

Property

Address 25-27 Warriewood rd , Warriewood , NSW , 2102

Lot/DP 5464

NatHERS climate zone

Accredited assessor

David Howard
Partners Energy Management
david@partnersenergy.com.au
0421381005
Accreditation No. 20039
Assessor Accrediting Organisation



(R)

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=KegSJdtio When using either link, ensure you are visiting hstar.com.au

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m ² /p.a.)	Cooling load (MJ/m ² /p.a.)	Total load (MJ/m ² /p.a.)	Star rating
0004866315	1.01	34	26.8	60.8	5.4
0004866356	1.02	20.6	29.1	49.8	6.2
0004866380	1.03	27.1	28.1	55.3	5.7
0004866406	1.04)7-Z/ V	26.9	33.9	7.4
0004866422	1.05	5.5	29.2	34.7	7.4

ABSA

Continued Over

National Construction Code (NCC) requirements

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

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

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



Summary of all dwellings (continued)

Certificate number and link	Unit Number	Heating load (MJ/m ² /p.a.)	Cooling load (MJ/m ² /p.a.)	Total load (MJ/m ² /p.a.)	Star rating
0004866471	1.06	5.1	15.2	20.3	8.4
0004866505	1.07	33.6	16.1	49.7	6.2
0004866539	1.08	4.9	26.6	31.6	7.6
0004866554	1.09	6.2	29.3	35.4	7.3
0004866570	1.10	5.3	28.2	33.6	7.4
0004866620	1.11	21.3	23.7	45	6.5
0004866653	1.12	12.6	18.3	30.9	7.6
0004866679	1.13	17.4	19.8	37.2	7.2
0004866703	2.01	24	28.5	52.6	5.9
0004866729	2.02	16.7	25.4	42.2	6.8
0004866323	2.03	16.7	24.4	41.1	6.9
0004866331	2.04	10.1	28.9	38.9	7
0004866364	2.05	12.4	22.8	35.2	7.3
0004866398	2.06	10.7	23.9	34.7	7.4
0004866448	2.07	17	23.2	40.2	6.9
0004866463	2.08	11.4	25	36.4	7.2
0004866497-01	DW01	32.5	19.4	51.9	5.9
0004866513-01	DW02	31.5	16	47.5	6.3
0004866547-01	DW03	23.7	19.5	43.1	6.7
0004866588-01	DW04	25.4	23.8	49.2	6.2
0004866604-01	DW05	22.4	23.8	46.3	6.4
0004866638-01	DW06	26.1	25.8	51.8	5.9
0004866687-01	DW07	22.4	23.1	45.5	6.4
0004866695-01	DW08	26	25.3	51.3	5.9
0004866711-01	DW09	22.4	23.8	46.3	6.4
0004866307-01	DW10	29.2	25	54.2	5.8
0004866349-01	DW11	39.7	25.4	65.1	5.1
0004866372	G.01	44.4	28.2	72.6	4.7
0004866414	G.02	30.7	27.2	57.9	5.5
0004866430	G.03	30.5	28	58.5	5.4
0004866455	G.04	6.2	29.2	35.4	7.3
0004866489	G.05	15.4	16.3	31.7	7.5
0004866521	G.06	31.7	15.8	47.5	6.3
0004866562	G.07	16.9	28.9	45.8	6.4
0004866596	G.08	9	27	36	7.3
0004866612	G.09	32.1	19.5	51.6	5.9
0004866646	G.10	19.7	16.1	35.8	7.3
0004866661	G.11	26.4	19	45.3	6.4

Explanatory Notes

0005556990 NatHERS Certificate



About this report

This is a summary of NCC Class 1 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances, or energy production of solar panels. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO). AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country.

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

Disclaimer

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

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866497-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

Address

Lot/DP

Unit DW01, 25-27 Warriewood rd Warriewood, NSW, 2102

NCC Class* Type

1A

5464

New Dwelling

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

Construction and environme

Assessed floor area (m²)*

Conditioned*	173.
Unconditioned*	60.0
Total	233.
Garage	60.0

Suburban NatHERS climate zone

Exposure Type

ccredited assessor

20039

Name **Business name** Email Phone

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

Accreditation No.

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts





51.9 MJ/m²

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
32.5	19.4
MJ/m ²	MJ/m ²

About the rating

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

Verification

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



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

National Construction Code (NCC) requirements

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

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



Certificate check

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

Genuine certificate

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

Ceiling penetrations*

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

Windows

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

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

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

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

Downlights must not penetrate ceiling insulation

Window and glazed door type and performance

Default* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WIND	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ATB-005-03 B	ATB-005-03 B Al Thermally Broken A DG Argon Fill High Solar Gain low-E -Clear	2.9	0.44	0.44	0.44	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.51	0.51	

Custom* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31160	SHGC lower limit	SHGC upper limit	
No Data Availab	le					



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ATB-005-03 B	n/a	2400	3000	n/a	75	SW	Yes
Kitchen/Living	ATB-005-03 B	n/a	2700	2673	n/a	30	NW	No
Kitchen/Living	ATB-005-03 B	n/a	2700	2700	n/a	75	NE	No
Kitchen/Living	ATB-005-03 B	n/a	2700	1149	n/a	90	NE	No
Bedroom 1	ALM-003-01 A	n/a	3707	600	n/a	90	SW	No
Bedroom 1	ATB-005-03 B	n/a	3707	1038	n/a	30	SW	No
Bedroom 1	ATB-005-03 B	n/a	3450	600	n/a	30	NW	No
Bedroom 2	ATB-005-03 B	n/a	3450	600	n/a	30	NW	No
Bedroom 3	ATB-005-03 B	n/a	3450	1200	n/a	00	NW	No
Bedroom 3	ATB-005-03 B	n/a	2550	2673	n/a	30	NW	No
Bedroom 3	ATB-005-03 B	n/a	2550	1975	n/a	45	NE	No
Bedroom 3	ATB-005-03 B	n/a	857	1975	n/a	00	NE	No
Ens	ATB-005-03 B	n/a	3707	600	n/a	90	SW	No

Roof window type and performance

Default* roof windows

Window ID	Windov	Window		Maximum		Substi	Substitution tolerance ranges			
	Descrip	otion	U-valu	le*	SHGC*	SHGC lowe	er limit	SHGC	upper limit	
No Data Ava	ilable									
Custom* roc	of windows									
Window ID Window		v	Maximum		SHGC*	Substitution toleranc		lerance i	æ ranges	
	Descrip	Description		U-value*		SHGC lowe	er limit	SHGC	upper limi	
No Data Ava	ilable									
Roof w	indow so	chedule								
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outd shade		Indoor shade	
	ilable									

Skylight type and performance

Skylight ID	Skylight description		
No Data Available			

5.9 Star Rating as of 22 Dec 2020



Skylight schedule

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

Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage 2	2400	5200	90	SW

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-2	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW-3	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
EW-1	2700	3695	SW	0	NO
EW-1	2700	13400	NW	0	NO
EW-1	2700	5500	NE	0	NO
EW-1	3800	3295	SW	1200	NO
EW-1	3450	5295	NW	25	NO
EW-1	3450	4190	NW	50	NO
EW-1	3450	3895	NW	75	NO
EW-1	3450	3295	NE	1500	NO
EW-1	3450	2195	NE	1500	NO
EW-1	3800	2195	SW	1200	NO
EW-1	2700	1795	SW	0	NO
EW-2	2550	5500	SW	0	NO
EW-2	2550	11595	NW	0	NO
EW-3	2550	2195	NE	0	NO
EW-3	2550	7195	NW	0	NO
EW-3	2550	3295	NE	0	NO
	ID EW-1 EW-1 EW-1 EW-1 EW-1 EW-1 EW-1 EW-1	ID (mm) EW-1 2700 EW-1 2700 EW-1 2700 EW-1 2700 EW-1 3800 EW-1 3450 EW-1 250 EW-2 2550 EW-2 2550 EW-3 2550 EW-3 2550	ID(mm)(mm)EW-127003695EW-1270013400EW-127005500EW-138003295EW-134505295EW-134504190EW-134503895EW-134503295EW-134502195EW-138002195EW-127001795EW-225505500EW-2255011595EW-325507195	ID(mm)(mm)OrientationEW-127003695SWEW-1270013400NWEW-127005500NEEW-138003295SWEW-134505295NWEW-134503895NWEW-134503295NEEW-134503295NEEW-134503295NEEW-134502195NEEW-138002195SWEW-127001795SWEW-225505500SWEW-2255011595NWEW-325507195NW	Wain ID Freight (mm) Width (mm) Orientation feature* maximum projection (mm) EW-1 2700 3695 SW 0 EW-1 2700 13400 NW 0 EW-1 2700 5500 NE 0 EW-1 2700 5500 NE 0 EW-1 3800 3295 SW 1200 EW-1 3450 5295 NW 25 EW-1 3450 5295 NW 50 EW-1 3450 3895 NW 50 EW-1 3450 3895 NE 1500 EW-1 3450 3295 NE 1500 EW-1 3450 2195 NE 1500 EW-1 3800 2195 SW 0 EW-1 2700 1795 SW 0 EW-2 2550 5500 SW 0 EW-2 2550 11595 NW 0 </td

Internal wall type

Wall ID

Wall type

Area (m²) Bulk insulation

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5.9 Star Rating as of 22 Dec 2020



Wall ID	Wall type	Area (m)	Bulk insulation
IW-1 - Brick, plasterboard		130.00	No Insulation
IW-2 - Concrete Block		44.00	No insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		89.00	No insulation
IW-4 - Cavity wall, direct fix plasterboard, single gap		14.00	Bulk Insulation, No Air Gap R2

Floor type

Location	Construction	Area Sub-floor (m ²) ventilatior	Added insulation (R-value)	Covering
Kitchen/Living /Garage 2	Timber Above Plasterboard 100mm	35.90	Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Kitchen/Living /Grd Entry/stair	Timber Above Plasterboard 100mm	8.80	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /Grd area 1	Timber Above Plasterboard 100mm	2.80	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /Grd area 2	Timber Above Plasterboard 100mm	17.40	No Insulation	Cork Tiles or Parquetry 8mm
Lift L2/Lift L1	Timber Above Plasterboard 100mm	3.40	No Insulation	Bare
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	16.80	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.00	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	12.50	No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kitchen/Living	Timber Above Plasterboard 19mm	5.70	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	15.00	No Insulation	Cork Tiles or Parquetry 8mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	1.00	No Insulation	Ceramic Tiles 8mm
Ens/WC	Timber Above Plasterboard 100mm	4.70	No Insulation	Ceramic Tiles 8mm
Lift L1/Lift - Grd	Timber Above Plasterboard 100mm	3.40	No Insulation	Bare
WC/Garage 2	Timber Above Plasterboard 100mm	4.70	Bulk Insulation R2.5	Ceramic Tiles 8mm
Lift - Grd	Concrete Slab on Ground 19mm	3.40 None	No Insulation	Ceramic Tiles 8mm
Garage 2	Concrete Slab on Ground 100mm	59.70 None	No Insulation	Bare
Grd Entry/stair	Concrete Slab on Ground 100mm	8.40 None	No Insulation	Carpet+Rubber Underlay 18mm
Grd area 1	Concrete Slab on Ground 100mm	6.80 None	No Insulation	Carpet+Rubber Underlay 18mm
Grd area 2	Concrete Slab on Ground 100mm	23.30 None	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Lift L2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No

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5.9 Star Rating as of 22 Dec 2020



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Upstairs	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Lift L1	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
Lift - Grd	Timber Above Plasterboard	No Insulation	No
Garage 2	Plasterboard	No insulation	No
Garage 2	Timber Above Plasterboard	Bulk Insulation R2.5	No
Grd Entry/stair	Timber Above Plasterboard	No Insulation	No
Grd area 1	Plasterboard	Bulk Insulation R3.5	No
Grd area 1	Timber Above Plasterboard	No Insulation	No
Grd area 2	Plasterboard	Bulk Insulation R3.5	No
Grd area 2	Timber Above 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	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.50	Medium
Waterproofing Membrane	No Insulation, Only an Air Gap	0.50	Medium



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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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.
, 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.
Vortical chading fortures	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. 0004866513-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

Address

Unit DW02, 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 (m²)*

Conditioned*	173.
Unconditioned*	60.0
Total	233.
Garage	60.0

Exposure Type Suburban NatHERS climate zone

ccredited assessor

0

Name **Business name** Email Phone

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

Accreditation No.

ABSA

Declaration of interest

20039

Assessor Accrediting Organisation

Declaration completed: no conflicts





47.5 MJ/m²

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
31.5	16.0
MJ/m ²	MJ/m ²

About the rating

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

Verification

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



p=DsIGMpldO. 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.

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

Downlights must not penetrate ceiling insulation

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
ATB-005-03 B	ATB-005-03 B Al Thermally Broken A DG Argon Fill High Solar Gain low-E -Clear	2.9	0.44	0.44	0.44
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.51	0.51

Custom* windows

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



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ATB-005-03 B	n/a	2700	2700	n/a	75	NE	No
Kitchen/Living	ATB-005-03 B	n/a	2700	1149	n/a	90	NE	No
Kitchen/Living	ATB-005-03 B	n/a	2700	2673	n/a	30	SE	No
Kitchen/Living	ATB-005-03 B	n/a	2400	3000	n/a	75	SW	Yes
Bedroom 1	ATB-005-03 B	n/a	3450	600	n/a	30	SE	No
Bedroom 1	ALM-003-01 A	n/a	3707	600	n/a	90	SW	No
Bedroom 1	ATB-005-03 B	n/a	3707	1038	n/a	30	SW	No
Bedroom 2	ATB-005-03 B	n/a	3450	600	n/a	30	SE	No
Bedroom 3	ATB-005-03 B	n/a	2550	1975	n/a	45	NE	No
Bedroom 3	ATB-005-03 B	n/a	857	1975	n/a	00	NE	No
Bedroom 3	ATB-005-03 B	n/a	3450	1200	n/a	00	SE	No
Bedroom 3	ATB-005-03 B	n/a	2550	2673	n/a	30	SE	No
Ens	ALM-003-01 A	n/a	3707	600	n/a	90	SW	No

Roof window type and performance

Default* roof windows

Window ID	Windov	v	Maximum		SHGC*	Substi	ostitution tolerance ranges	ranges	
window ID	Descrip	Description U-value*	SHGC lowe	er limit	SHGC	upper limit			
No Data Ava	ilable								
Custom* roc	of windows								
Window ID	Windov	v	Maximum S U-value*		SHGC*	Substi	tution to	lerance i	ranges
	Descrip	otion			0100	SHGC lowe	er limit	SHGC	upper limi
No Data Ava	ilable								
Roof w	indow so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outd shade		Indoor shade
	ilable								

Skylight type and performance

Skylight ID	Skylight description
No Data Available	

6.3 Star Rating as of 22 Dec 2020



Skylight schedule

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

Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage 2	2400	5200	90	SW

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-2	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW-3	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	5500	NE	0	NO
Kitchen/Living	EW-1	2700	13400	SE	0	NO
Kitchen/Living	EW-1	2700	3695	SW	0	NO
Bedroom 1	EW-1	3450	5295	SE	0	NO
Bedroom 1	EW-1	3800	3295	SW	1200	NO
Bedroom 2	EW-1	3450	4190	SE	0	NO
Bedroom 3	EW-1	3450	3295	NE	1500	NO
Bedroom 3	EW-1	3450	3895	SE	0	NO
Bath	EW-1	3450	2195	NE	1500	NO
Ens	EW-1	3800	2195	SW	1200	NO
WC	EW-1	2700	1795	SW	75	NO
Garage 2	EW-2	2550	11595	SE	0	NO
Garage 2	EW-2	2550	5500	SW	0	NO
Grd area 1	EW-3	2550	2195	NE	0	NO
Grd area 2	EW-3	2550	3295	NE	0	NO
Grd area 2	EW-3	2550	7195	SE	0	NO

Internal wall type

Wall ID

Wall type

Area (m²) Bulk insulation



Wall ID	Wall type	Area (m)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		89.00	No insulation
IW-2 - Concrete Block		44.00	No insulation
IW-3 - Cavity brick, plasterboard		112.00	No Insulation
IW-4 - Cavity wall, direct fix plasterboard, single gap		14.00	Bulk Insulation, No Air Gap R2.5
IW-5 - Brick, plasterboard		18.00	No Insulation

Floor type

Location	Construction	Area Sub-floor (m ²) ventilatior	Added insulation (R-value)	Covering
Kitchen/Living /Garage 2	Timber Above Plasterboard 100mm	35.90	Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Kitchen/Living /Grd Entry/stair	Timber Above Plasterboard 100mm	8.80	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /Grd area	Timber Above Plasterboard 100mm	2.80	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /Grd area 2	Timber Above Plasterboard 100mm	17.40	No Insulation	Cork Tiles or Parquetry 8mm
Lift L2/Lift L1	Timber Above Plasterboard 100mm	3.40	No Insulation	Bare
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	16.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.00	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	12.50	No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kitchen/Living	Timber Above Plasterboard 19mm	5.70	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	15.00	No Insulation	Cork Tiles or Parquetry 8mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	1.00	No Insulation	Ceramic Tiles 8mm
Ens/WC	Timber Above Plasterboard 100mm	4.70	No Insulation	Ceramic Tiles 8mm
Lift L1/Lift - Grd	Timber Above Plasterboard 100mm	3.40	No Insulation	Bare
WC/Garage 2	Timber Above Plasterboard 100mm	4.70	Bulk Insulation R2.5	Ceramic Tiles 8mm
Lift - Grd	Concrete Slab on Ground 19mm	3.40 None	No Insulation	Ceramic Tiles 8mm
Garage 2	Concrete Slab on Ground 100mm	59.70 None	No Insulation	Bare
Grd Entry/stair	Concrete Slab on Ground 100mm	8.40 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Grd area 1	Concrete Slab on Ground 100mm	6.80 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Grd area 2	Concrete Slab on Ground 100mm	23.30 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Lift L2	Plasterboard	Bulk Insulation R3.5	No

0004866513-01 NatHERS Certificate

6.3 Star Rating as of 22 Dec 2020



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1	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
Upstairs	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Lift L1	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
Lift - Grd	Timber Above Plasterboard	No Insulation	No
Garage 2	Plasterboard	No insulation	No
Garage 2	Timber Above Plasterboard	Bulk Insulation R2.5	No
Grd Entry/stair	Timber Above Plasterboard	No Insulation	No
Grd area 1	Plasterboard	Bulk Insulation R3.5	No
Grd area 1	Timber Above Plasterboard	No Insulation	No
Grd area 2	Plasterboard	Bulk Insulation R3.5	No
Grd area 2	Timber Above Plasterboard	No Insulation	No

Ceiling penetrations*

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

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



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited 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
/ertical 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. 0004866547-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

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Lot/DP

Unit DW03, 25-27 Warriewood rd Warriewood, NSW, 2102

NCC Class*

5464 1A

Type

New Dwelling

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

Construction and environme

Assessed floor area (m²)*

Conditioned*	116.0
Unconditioned*	97.0
Total	213.0
Garage	91.0

Exposure Type Suburban NatHERS climate zone

ccredited assessor

Name **Business name** Email Phone

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

Accreditation No.

ABSA

Declaration of interest

20039

Assessor Accrediting Organisation

Declaration completed: no conflicts





43.1 MJ/m²

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
23.7	19.5
MJ/m ²	MJ/m ²

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

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

Downlights must not penetrate ceiling insulation

Window and glazed door type and performance

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	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
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ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.51	0.51	

Custom* windows

Window ID	Window Maximum		SHGC*	Substitution tolerance ranges		
	Description	U-value*	31160	SHGC lower limit	SHGC upper limit	
No Data Availab	le					



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ATB-005-03 B	n/a	2400	4000	n/a	65	SW	Yes
Kitchen/Living	ATB-005-03 B	n/a	2700	2770	n/a	30	NW	No
Kitchen/Living	ATB-005-03 B	n/a	2700	2700	n/a	65	NE	No
Kitchen/Living	ATB-005-03 B	n/a	2700	1148	n/a	90	NE	No
Bath	ALM-003-01 A	n/a	3707	600	n/a	70	SW	No
Bedroom 1	ALM-003-01 A	n/a	3707	600	n/a	70	SW	No
Bedroom 1	ATB-005-03 B	n/a	3707	1039	n/a	30	SW	No
Bedroom 1	ATB-005-03 B	n/a	3707	600	n/a	30	NW	No
Bedroom 2	ATB-005-03 B	n/a	3707	600	n/a	30	NW	No
Bedroom 3	ATB-005-03 B	n/a	3407	2770	n/a	30	NW	No
Bedroom 3	ATB-005-03 B	n/a	3407	1086	n/a	00	NW	No
Bedroom 3	ATB-005-03 B	n/a	2550	2050	n/a	45	NE	No
Bedroom 3	ATB-005-03 B	n/a	857	2050	n/a	00	NE	No

Roof window type and performance

Default* roof windows

Window ID	Window Description		Maximum		SUCC*	Substitution tolerance ranges			
			U-valu	le*	SHGC*	SHGC lowe	er limit	SHGC upper li	
No Data Ava	ilable								
Custom* roo	of windows								
Window ID Window		v	Maximum U-value*		SHGC*	Substi	Substitution tolerance ranges		
window ID	Description				0100	SHGC lowe	er limit	SHGC upper li	
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	

6.7 Star Rating as of 22 Dec 2020



Skylight schedule

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

No Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage/Store	2400	5400	90	SW

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	Foil, Anti-glare one side, Reflective other	Yes
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage/Store	EW-1	2550	5500	SW	0	NO
Garage/Store	EW-1	2550	13500	NW	0	NO
Garage/Store	EW-1	2550	3100	NW	0	NO
Garage/Store	EW-1	2550	5500	NE	0	NO
WC	EW-2	2700	895	SW	0	NO
Kitchen/Living	EW-2	2700	4595	SW	0	NO
Kitchen/Living	EW-2	2700	11800	NW	0	NO
Kitchen/Living	EW-2	2700	5500	NE	0	NO
Bath	EW-3	3800	1795	SW	1300	NO
Bedroom 1	EW-3	3800	3695	SW	1300	NO
Bedroom 1	EW-3	3800	3795	NW	0	NO
Bedroom 2	EW-3	3800	4190	NW	0	NO
Bedroom 3	EW-3	3800	3795	NW	0	NO
Bedroom 3	EW-3	3800	3295	NE	1200	NO
Ens	EW-3	3800	2195	NE	1200	NO

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity brick		119.00	No Insulation



Wall ID	Wall type	Area (m)	Bulk insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation

Floor type

Location	Construction	Area Sub-floor (m ²) ventilation	Added insulation (R-value)	Covering
Garage/Store	Concrete Slab on Ground 100mm	91.30 None	No Insulation	Bare
WC/Garage/Store	Timber Above Plasterboard 100mm	2.10	Bulk Insulation R2.5	Ceramic Tiles 8mm
Kitchen/Living /Garage/Store	Timber Above Plasterboard 100mm	62.50	Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bath/WC	Timber Above Plasterboard 100mm	2.20	No Insulation	Ceramic Tiles 8mm
Bath/Kitchen/Living	Timber Above Plasterboard 100mm	3.40	No Insulation	Ceramic Tiles 8mm
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.60	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	13.30	No Insulation	Carpet+Rubber Underlay 18mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	5.50	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage/Store	Plasterboard	No insulation	No
Garage/Store	Timber Above Plasterboard	Bulk Insulation R2.5	No
WC	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Upstairs	Plasterboard	Bulk Insulation R3.5	No

Ceiling penetrations*

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

6.7 Star Rating as of 22 Dec 2020



Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		
Roof type		

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

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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.

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Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.				
, initial offer gy load	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the				
Assessed floor area	design documents.				
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.				
Vortical chading fortures	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. 0004866588-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

Address

Unit DW04, 25-27 Warriewood rd , Warriewood , NSW , 2102

NCC Class*

5464 1A

Туре

Lot/DP

1A New Dwelling

.

Plans

Main Plan Prepared by Warriewood Residential Development VIA Architects

Construction and environment

Assessed floor area (m²)*

Conditioned*	116.0
Unconditioned*	97.0
Total	213.0
Garage	91.0

Suburban NatHERS climate zone

Exposure Type

Accredited 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





49.2 MJ/m²

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
25.4	23.8
MJ/m ²	MJ/m ²

About the rating

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

Verification

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



p=DbrmVUznf. 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.

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

Downlights must not penetrate ceiling insulation

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
ATB-005-03 B	ATB-005-03 B Al Thermally Broken A DG Argon Fill High Solar Gain low-E -Clear	2.9	0.44	0.44	0.44
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.51	0.51

Custom* windows

Window ID	Window	Maximum	SHGC*	lerance ranges	
	Description U-value*	U-value*	Shoc	SHGC lower limit	SHGC upper limit
No Data Availabl	e				



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ATB-005-03 B	n/a	2700	2700	n/a	65	NE	No
Kitchen/Living	ATB-005-03 B	n/a	2700	1148	n/a	90	NE	No
Kitchen/Living	ATB-005-03 B	n/a	2700	2770	n/a	30	SE	No
Kitchen/Living	ATB-005-03 B	n/a	2400	4000	n/a	65	SW	Yes
Bath	ALM-003-01 A	n/a	3707	600	n/a	70	SW	No
Bedroom 1	ATB-005-03 B	n/a	3707	600	n/a	30	SE	No
Bedroom 1	ALM-003-01 A	n/a	3707	600	n/a	70	SW	No
Bedroom 1	ATB-005-03 B	n/a	3707	1039	n/a	30	SW	No
Bedroom 2	ATB-005-03 B	n/a	3707	600	n/a	30	SE	No
Bedroom 3	ATB-005-03 B	n/a	2550	2050	n/a	45	NE	No
Bedroom 3	ATB-005-03 B	n/a	857	2050	n/a	00	NE	No
Bedroom 3	ATB-005-03 B	n/a	3407	2770	n/a	30	SE	No
Bedroom 3	ATB-005-03 B	n/a	3407	1086	n/a	00	SE	No

Roof window type and performance

Default* roof windows

Window ID	Windov	v	Maximum		SUCC*	Substit	Substitution tolerance ranges		
window ID	Descrip	otion	U-valu	le*	SHGC*	SHGC lowe	er limit	SHGC upper lim	
No Data Ava	ailable								
Custom* roo	of windows								
Window ID	Window	v	Maxim	um	SHGC*	Substit	Substitution tol		
	Descrip	Description		U-value*		SHGC lowe	er limit	SHGC upper lim	
No Data Ava	ailable								
Roof w	indow so	hedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outd shade		

Skylight type and performance

Skylight ID	Skylight description
No Data Available	

6.2 Star Rating as of 22 Dec 2020



Skylight schedule

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

No Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage/Store	2400	5400	90	SW

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	Foil, Anti-glare one side, Reflective other	Yes
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage/Store	EW-1	2550	5500	NE	0	NO
Garage/Store	EW-1	2550	3100	SE	0	NO
Garage/Store	EW-1	2550	13500	SE	0	NO
Garage/Store	EW-1	2550	5500	SW	0	NO
WC	EW-2	2700	895	SW	0	NO
Kitchen/Living	EW-2	2700	5500	NE	0	NO
Kitchen/Living	EW-2	2700	11800	SE	0	NO
Kitchen/Living	EW-2	2700	4595	SW	0	NO
Bath	EW-3	3800	1795	SW	1300	NO
Bedroom 1	EW-3	3800	3795	SE	0	NO
Bedroom 1	EW-3	3800	3695	SW	1300	NO
Bedroom 2	EW-3	3800	4190	SE	0	NO
Bedroom 3	EW-3	3800	3295	NE	1200	NO
Bedroom 3	EW-3	3800	3795	SE	0	NO
Ens	EW-3	3800	2195	NE	1200	NO

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity brick		119.00	No Insulation



Wall ID	Wall type	Area (m)	Bulk insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation

Floor type

Location	Construction	Area Sub-floor (m ²) ventilation	Added insulation (R-value)	Covering
Garage/Store	Concrete Slab on Ground 100mm	91.30 None	No Insulation	Bare
WC/Garage/Store	Timber Above Plasterboard 100mm	2.10	Bulk Insulation R2.5	Ceramic Tiles 8mm
Kitchen/Living /Garage/Store	Timber Above Plasterboard 100mm	62.50	Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bath/WC	Timber Above Plasterboard 100mm	2.20	No Insulation	Ceramic Tiles 8mm
Bath/Kitchen/Living	Timber Above Plasterboard 100mm	3.40	No Insulation	Ceramic Tiles 8mm
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.60	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	13.30	No Insulation	Carpet+Rubber Underlay 18mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	5.50	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	12.80	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage/Store	Plasterboard	No insulation	No
Garage/Store	Timber Above Plasterboard	Bulk Insulation R2.5	No
WC	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Upstairs	Plasterboard	Bulk Insulation R3.5	No

Ceiling penetrations*

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

6.2 Star Rating as of 22 Dec 2020



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
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.50	Medium

* Refer to glossary. Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21) for Unit DW04, 25-27 Warriew ood rd , Warriew ood , NSW , 2102



Explanatory notes

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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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	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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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. 0004866604-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

Address

Lot/DP

Unit DW05, 25-27 Warriewood rd Warriewood, NSW, 2102

NCC Class*

1A

5464

Type

New Dwelling

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

Construction and environme

Assessed floor area (m²)*

Conditioned*	116.0
Unconditioned*	97.0
Total	213.0
Garage	91.0

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





46.3 MJ/m²

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
22.4	23.8
MJ/m ²	MJ/m ²

About the rating

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Verification

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



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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.

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

Downlights must not penetrate ceiling insulation

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	
ATB-005-03 B	ATB-005-03 B Al Thermally Broken A DG Argon Fill High Solar Gain low-E -Clear	2.9	0.44	0.44	0.44	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.51	0.51	

Custom* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value*	31160	SHGC lower limit	SHGC upper limit	
No Data Availab	le					



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ATB-005-03 B	n/a	2400	4000	n/a	65	W	Yes
Kitchen/Living	ATB-005-03 B	n/a	2700	2770	n/a	30	Ν	No
Kitchen/Living	ATB-005-03 B	n/a	2700	2700	n/a	65	E	No
Kitchen/Living	ATB-005-03 B	n/a	2700	1148	n/a	90	E	No
Bath	ALM-003-01 A	n/a	3707	600	n/a	70	W	No
Bedroom 1	ALM-003-01 A	n/a	3707	600	n/a	70	W	No
Bedroom 1	ATB-005-03 B	n/a	3707	1039	n/a	30	W	No
Bedroom 1	ATB-005-03 B	n/a	3707	600	n/a	30	Ν	No
Bedroom 2	ATB-005-03 B	n/a	3707	600	n/a	30	Ν	No
Bedroom 3	ATB-005-03 B	n/a	3407	2770	n/a	30	Ν	No
Bedroom 3	ATB-005-03 B	n/a	3407	1086	n/a	00	Ν	No
Bedroom 3	ATB-005-03 B	n/a	2550	2050	n/a	45	E	No
Bedroom 3	ATB-005-03 B	n/a	857	2050	n/a	00	E	No
Bedroom 3	ATB-005-03 B	n/a	807	2050	n/a	00	E	INO

Roof window type and performance

Default* roof windows

Window ID	Window Maximun		um succ*	Subst	Substitution tolerance ranges				
window ID	indow ID Description U-value* SHGC*	SHGC low	er limit	SHG	C upper limit				
No Data Ava	ailable								
Custom* roo	of windows								
Window ID	Window	v	Maxim	um	SHGC*	Substitu		n tolerance ranges	
	Description U-value*		3660	SHGC low	SHGC lower limit		SHGC upper limit		
No Data Ava	ailable								
Roof w	indow so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outde shade		Indoor shade

Skylight type and performance

Skylight ID	Skylight description
No Data Available	

6.4 Star Rating as of 22 Dec 2020



Skylight schedule

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

No Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage/Store	2400	5400	90	W

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	Foil, Anti-glare one side, Reflective other	Yes
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage/Store	EW-1	2550	5500	W	0	NO
Garage/Store	EW-1	2550	13500	Ν	0	NO
Garage/Store	EW-1	2550	3100	Ν	0	NO
Garage/Store	EW-1	2550	5500	E	0	NO
WC	EW-2	2700	895	W	0	NO
Kitchen/Living	EW-2	2700	4595	W	0	NO
Kitchen/Living	EW-2	2700	11800	Ν	0	NO
Kitchen/Living	EW-2	2700	5500	E	0	NO
Bath	EW-3	3800	1795	W	1300	NO
Bedroom 1	EW-3	3800	3695	W	1300	NO
Bedroom 1	EW-3	3800	3795	Ν	0	NO
Bedroom 2	EW-3	3800	4190	Ν	0	NO
Bedroom 3	EW-3	3800	3795	Ν	0	NO
Bedroom 3	EW-3	3800	3295	E	1200	NO
Ens	EW-3	3800	2195	E	1200	NO

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity brick		119.00	No Insulation



Wall ID	Wall type	Area (m)	Bulk insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation

Floor type

Location	Construction	Area Sub-floor (m ²) ventilation	Added insulation (R-value)	Covering
Garage/Store	Concrete Slab on Ground 100mm	91.30 None	No Insulation	Bare
WC/Garage/Store	Timber Above Plasterboard 100mm	2.10	Bulk Insulation R2.5	Ceramic Tiles 8mm
Kitchen/Living /Garage/Store	Timber Above Plasterboard 100mm	62.50	Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bath/WC	Timber Above Plasterboard 100mm	2.20	No Insulation	Ceramic Tiles 8mm
Bath/Kitchen/Living	Timber Above Plasterboard 100mm	3.40	No Insulation	Ceramic Tiles 8mm
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.60	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	13.30	No Insulation	Carpet+Rubber Underlay 18mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	5.50	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage/Store	Plasterboard	No insulation	No
Garage/Store	Timber Above Plasterboard	Bulk Insulation R2.5	No
WC	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Upstairs	Plasterboard	Bulk Insulation R3.5	No

Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm ²)	Sealed/unsealed
No Data Available				
6.4 Star Rating as of 22 Dec 2020



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
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	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. 0004866638-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

Address

Lot/DP

Unit DW06, 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

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Total	213.0
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Suburban NatHERS climate zone

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

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Declaration of interest

Declaration completed: no conflicts

The more stars the more energy efficient IONWIDE

51.8 MJ/m²

R

ENERGY RATING SCHEME

Predicted annual energy load for heating and cooling based on standard occupancy assumptions

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Thermal performance

Heating	Cooling
26.1	25.8
MJ/m ²	MJ/m ²

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Custom* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
WINDOW ID	Description	U-value*	51160	SHGC lower limit	SHGC upper limit		
No Data Availabl	e						



Window and glazed door schedule

	no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	shading device*
ATB-005-03 B	n/a	2700	2700	n/a	65	E	No
ATB-005-03 B	n/a	2700	1148	n/a	90	E	No
ATB-005-03 B	n/a	2700	2770	n/a	40	S	No
ATB-005-03 B	n/a	2400	4000	n/a	65	W	Yes
ALM-003-01 A	n/a	3707	600	n/a	70	W	No
ATB-005-03 B	n/a	3707	600	n/a	30	S	No
ALM-003-01 A	n/a	3707	600	n/a	70	W	No
ATB-005-03 B	n/a	3707	1039	n/a	40	W	No
ATB-005-03 B	n/a	3707	600	n/a	30	S	No
ATB-005-03 B	n/a	2550	2050	n/a	45	E	No
ATB-005-03 B	n/a	857	2050	n/a	00	E	No
ATB-005-03 B	n/a	3407	2770	n/a	40	S	No
ATB-005-03 B	n/a	3407	1086	n/a	00	S	No
	ATB-005-03 B ATB-005-03 B ATB-005-03 B ATB-005-03 B ALM-003-01 A ATB-005-03 B ALM-003-01 A ATB-005-03 B ATB-005-03 B	ATB-005-03 B n/a ATB-005-03 B n/a ATB-005-03 B n/a ATB-005-03 B n/a ALM-003-01 A n/a ATB-005-03 B n/a	ATB-005-03 B n/a 2700 ATB-005-03 B n/a 2700 ATB-005-03 B n/a 2400 ATB-005-03 B n/a 3707 ALM-003-01 A n/a 3707 ATB-005-03 B n/a 3707 ATB-005-03 B n/a 3707 ALM-003-01 A n/a 3707 ATB-005-03 B n/a 3707 ATB-005-03 B n/a 3707 ATB-005-03 B n/a 3707 ATB-005-03 B n/a 857 ATB-005-03 B n/a 3407	ATB-005-03 B n/a 2700 1148 ATB-005-03 B n/a 2700 2770 ATB-005-03 B n/a 2400 4000 ATB-005-03 B n/a 3707 600 ALM-003-01 A n/a 3707 600 ATB-005-03 B n/a 3707 2050 ATB-005-03 B n/a 857 2050 ATB-005-03 B n/a 3407 2770	ATB-005-03 B n/a 2700 1148 n/a ATB-005-03 B n/a 2700 2770 n/a ATB-005-03 B n/a 2400 4000 n/a ATB-005-03 B n/a 2400 4000 n/a ATB-005-03 B n/a 3707 600 n/a ALM-003-01 A n/a 3707 600 n/a ATB-005-03 B n/a 2550 2050 n/a ATB-005-03 B n/a 857 2050 n/a ATB-005-03 B n/a 3407 2770 n/a	ATB-005-03 B n/a 2700 1148 n/a 90 ATB-005-03 B n/a 2700 2770 n/a 40 ATB-005-03 B n/a 2400 4000 n/a 65 ALM-003-01 A n/a 3707 600 n/a 70 ATB-005-03 B n/a 3707 600 n/a 30 ALM-003-01 A n/a 3707 600 n/a 30 ATB-005-03 B n/a 3707 600 n/a 30 ALM-003-01 A n/a 3707 600 n/a 30 ALM-003-01 A n/a 3707 600 n/a 30 ATB-005-03 B n/a 3707 600 n/a 40 ATB-005-03 B n/a 3707 600 n/a 30 ATB-005-03 B n/a 2550 2050 n/a 45 ATB-005-03 B n/a 857 2050 n/a 40 ATB-005-03 B n/a 3407 2770 n/a 40	ATB-005-03 Bn/a27001148n/a90EATB-005-03 Bn/a27002770n/a40SATB-005-03 Bn/a24004000n/a65WALM-003-01 An/a3707600n/a70WATB-005-03 Bn/a3707600n/a30SALM-003-01 An/a3707600n/a70WATB-005-03 Bn/a3707600n/a30SALM-003-01 An/a3707600n/a30SALM-003-03 Bn/a3707600n/a40WATB-005-03 Bn/a3707600n/a30SATB-005-03 Bn/a3707600n/a40WATB-005-03 Bn/a8572050n/a45EATB-005-03 Bn/a8572050n/a40SATB-005-03 Bn/a34072770n/a40S

Roof window type and performance

Default* roof windows

Window ID	Windov	v	Maxim	um	SHGC*	Substitution tolerance r		ranges	
window ID	Descrip	otion	U-valu	le*	SHGC	SHGC low	er limit	SHG	C upper limit
No Data Ava	ailable								
Custom* roo	of windows								
Window ID	Window	v	Maxim	aximum SHGC* I-value*		Subst	Substitution tolerance range SHGC lower limit SHGC uppe		ranges
	Descrip	otion	U-valu			SHGC low			SHGC upper limit
No Data Ava	ailable								
Roof w	indow so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outde shade		Indoor shade

Skylight type and performance

Skylight ID	Skylight description
No Data Available	

5.9 Star Rating as of 22 Dec 2020



Skylight schedule

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

No Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage/Store	2400	5400	90	W

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	Foil, Anti-glare one side, Reflective other	Yes
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage/Store	EW-1	2550	5500	E	0	NO
Garage/Store	EW-1	2550	3100	S	0	NO
Garage/Store	EW-1	2550	13500	S	0	NO
Garage/Store	EW-1	2550	5500	W	0	NO
WC	EW-2	2700	895	W	0	NO
Kitchen/Living	EW-2	2700	5500	E	0	NO
Kitchen/Living	EW-2	2700	11800	S	0	NO
Kitchen/Living	EW-2	2700	4595	W	0	NO
Bath	EW-3	3800	1795	W	1300	NO
Bedroom 1	EW-3	3800	3795	S	0	NO
Bedroom 1	EW-3	3800	3695	W	1300	NO
Bedroom 2	EW-3	3800	4190	S	0	NO
Bedroom 3	EW-3	3800	3295	E	1200	NO
Bedroom 3	EW-3	3800	3795	S	0	NO
Ens	EW-3	3800	2195	E	1200	NO

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity brick		119.00	No Insulation



Wall ID	Wall type	Area (m)	Bulk insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation

Floor type

Location	Construction	Area Sub-floor (m ²) ventilation	Added insulation (R-value)	Covering
Garage/Store	Concrete Slab on Ground 100mm	91.30 None	No Insulation	Bare
WC/Garage/Store	Timber Above Plasterboard 100mm	2.10	Bulk Insulation R2.5	Ceramic Tiles 8mm
Kitchen/Living /Garage/Store	Timber Above Plasterboard 100mm	62.50	Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bath/WC	Timber Above Plasterboard 100mm	2.20	No Insulation	Ceramic Tiles 8mm
Bath/Kitchen/Living	Timber Above Plasterboard 100mm	3.40	No Insulation	Ceramic Tiles 8mm
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.60	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	13.30	No Insulation	Carpet+Rubber Underlay 18mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	5.50	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	12.80	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage/Store	Plasterboard	No insulation	No
Garage/Store	Timber Above Plasterboard	Bulk Insulation R2.5	No
WC	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Upstairs	Plasterboard	Bulk Insulation R3.5	No

Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm²)	Sealed/unsealed
No Data Available				

5.9 Star Rating as of 22 Dec 2020



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
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.50	Medium

* Refer to glossary. Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21) for Unit DW06, 25-27 Warriew ood rd , Warriew ood , NSW , 2102



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
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 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. 0004866687-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

Address

Lot/DP

Unit DW07, 25-27 Warriewood rd Warriewood, NSW, 2102

- NCC Class* Type
- 1A

5464

New Dwelling

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

Construction and environme

Assessed floor area (m²)*

Conditioned*	116.0
Unconditioned*	97.0
Total	213.0
Garage	91.0

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





45.5 MJ/m²

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
22.4	23.1
MJ/m ²	MJ/m ²

About the rating

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

Verification

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

p=ohtDtlRyU.



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.

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

Downlights must not penetrate ceiling insulation

Window and glazed door type and performance

Default* windows

Window ID	Window	W Maximum SHGC*		Maximum SHCC*		Substitution to	lerance ranges
WINDOW ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit		
ATB-005-03 B	ATB-005-03 B Al Thermally Broken A DG Argon Fill High Solar Gain low-E -Clear	2.9	0.44	0.44	0.44		
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.51	0.51		

Custom* windows

Window ID Window Description	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31160	SHGC lower limit	SHGC upper limit
No Data Availabl	e				



Window and glazed door schedule

Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
ATB-005-03 B	n/a	2400	4000	n/a	65	W	Yes
ATB-005-03 B	n/a	2700	2770	n/a	40	Ν	No
ATB-005-03 B	n/a	2700	2700	n/a	65	E	No
ATB-005-03 B	n/a	2700	1148	n/a	90	E	No
ALM-003-01 A	n/a	3707	600	n/a	70	W	No
ALM-003-01 A	n/a	3707	600	n/a	70	W	No
ATB-005-03 B	n/a	3707	1039	n/a	30	W	No
ATB-005-03 B	n/a	3707	600	n/a	30	Ν	No
ATB-005-03 B	n/a	3707	600	n/a	30	Ν	No
ATB-005-03 B	n/a	3407	2770	n/a	30	Ν	No
ATB-005-03 B	n/a	3407	1086	n/a	00	Ν	No
ATB-005-03 B	n/a	2550	2050	n/a	45	E	No
ATB-005-03 B	n/a	857	2050	n/a	00	E	No
	ID ATB-005-03 B ATB-005-03 B ATB-005-03 B ATB-005-03 B ALM-003-01 A ALM-003-01 A ATB-005-03 B ATB-005-03 B	ID no. ATB-005-03 B n/a ALM-003-01 A n/a ATB-005-03 B n/a	ID no. (mm) ATB-005-03 B n/a 2400 ATB-005-03 B n/a 2700 ATB-005-03 B n/a 3707 ALM-003-01 A n/a 3707 ALM-003-01 A n/a 3707 ATB-005-03 B n/a 3707 ATB-005-03 B n/a 3707 ATB-005-03 B n/a 3707 ATB-005-03 B n/a 3407 ATB-005-03 B n/a 3407 ATB-005-03 B n/a 2550	ID no. (mm) (mm) ATB-005-03 B n/a 2400 4000 ATB-005-03 B n/a 2700 2770 ATB-005-03 B n/a 2700 2700 ATB-005-03 B n/a 2700 2700 ATB-005-03 B n/a 2700 1148 ALM-003-01 A n/a 3707 600 ATB-005-03 B n/a 3707 600 ALM-003-01 A n/a 3707 600 ATB-005-03 B n/a 3407 2770 ATB-005-03 B n/a 3407 1086 ATB-005-03 B n/a 2550 2050	ID no. (mm) (mm) type ATB-005-03 B n/a 2400 4000 n/a ATB-005-03 B n/a 2700 2770 n/a ATB-005-03 B n/a 2700 2700 n/a ATB-005-03 B n/a 2700 2700 n/a ATB-005-03 B n/a 2700 1148 n/a ATB-005-03 B n/a 3707 600 n/a ALM-003-01 A n/a 3707 600 n/a ATB-005-03 B n/a 3407 1086 n/a ATB-005-03 B n/a 3407 1086 n/a ATB-005-03 B n/a 2550 2050 n/a	ID no. (mm) (mm) type % ATB-005-03 B n/a 2400 4000 n/a 65 ATB-005-03 B n/a 2700 2770 n/a 40 ATB-005-03 B n/a 2700 2700 n/a 65 ATB-005-03 B n/a 2700 2700 n/a 65 ATB-005-03 B n/a 2700 1148 n/a 90 ALM-003-01 A n/a 3707 600 n/a 70 ALM-003-01 A n/a 3707 600 n/a 30 ATB-005-03 B n/a 3407 2770 n/a 30 ATB-005-03 B	ID no. (mm) (mm) type % Orientation ATB-005-03 B n/a 2400 4000 n/a 65 W ATB-005-03 B n/a 2700 2770 n/a 40 N ATB-005-03 B n/a 2700 2770 n/a 40 N ATB-005-03 B n/a 2700 2700 n/a 65 E ATB-005-03 B n/a 2700 1148 n/a 90 E ATB-005-03 B n/a 3707 600 n/a 70 W ALM-003-01 A n/a 3707 600 n/a 70 W ATB-005-03 B n/a 3707 600 n/a 30 W ATB-005-03 B n/a 3707 600 n/a 30 N ATB-005-03 B n/a 3707 600 n/a 30 N ATB-005-03 B n/a 3407 2770 n/a <t< td=""></t<>

Roof window type and performance

Default* roof windows

Window ID Window		Maximum		SUCC*	Subst	Substitution tolerance ranges			
window ID	adow ID Description U-value* SHGC*		SHGC low	er limit	SHG	C upper limit			
No Data Ava	ailable								
Custom* roo	of windows								
Window ID	Window	indow Maximum				Subst	itution to	lerance	ranges
	Description U-value* SHGC*		3660	SHGC low	er limit	SHG	C upper limit		
No Data Ava	ailable								
Roof w	indow so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outde shade		Indoor shade

Skylight type and performance

Skylight ID	Skylight description
No Data Available	

6.4 Star Rating as of 22 Dec 2020



Skylight schedule

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

No Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage/Store	2400	5400	90	W

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	Foil, Anti-glare one side, Reflective other	Yes
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage/Store	EW-1	2550	5500	W	0	NO
Garage/Store	EW-1	2550	13500	Ν	0	NO
Garage/Store	EW-1	2550	3100	Ν	0	NO
Garage/Store	EW-1	2550	5500	E	0	NO
WC	EW-2	2700	895	W	0	NO
Kitchen/Living	EW-2	2700	4595	W	0	NO
Kitchen/Living	EW-2	2700	11800	Ν	0	NO
Kitchen/Living	EW-2	2700	5500	E	0	NO
Bath	EW-3	3800	1795	W	1300	NO
Bedroom 1	EW-3	3800	3695	W	1300	NO
Bedroom 1	EW-3	3800	3795	N	0	NO
Bedroom 2	EW-3	3800	4190	N	0	NO
Bedroom 3	EW-3	3800	3795	Ν	0	NO
Bedroom 3	EW-3	3800	3295	E	1200	NO
Ens	EW-3	3800	2195	E	1200	NO

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity brick		119.00	No Insulation



Wall ID	Wall type	Area (m)	Bulk insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation

Floor type

Location	Construction	Area Sub-floor (m ²) ventilation	Added insulation (R-value)	Covering
Garage/Store	Concrete Slab on Ground 100mm	91.30 None	No Insulation	Bare
WC/Garage/Store	Timber Above Plasterboard 100mm	2.10	Bulk Insulation R2.5	Ceramic Tiles 8mm
Kitchen/Living /Garage/Store	Timber Above Plasterboard 100mm	62.50	Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bath/WC	Timber Above Plasterboard 100mm	2.20	No Insulation	Ceramic Tiles 8mm
Bath/Kitchen/Living	Timber Above Plasterboard 100mm	3.40	No Insulation	Ceramic Tiles 8mm
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.60	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	13.30	No Insulation	Carpet+Rubber Underlay 18mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	5.50	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage/Store	Plasterboard	No insulation	No
Garage/Store	Timber Above Plasterboard	Bulk Insulation R2.5	No
WC	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Upstairs	Plasterboard	Bulk Insulation R3.5	No

Ceiling penetrations*

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

6.4 Star Rating as of 22 Dec 2020



Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		
Roof type		

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
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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 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.				
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Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.				
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).				
	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.				
Vortical chading fortures	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. 0004866695-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

Address

Unit DW08, 25-27 Warriewood rd , Warriewood , NSW , 2102

NCC Class*

5464 1A

Туре

Lot/DP

1A New Dwelling

0

Plans

Main Plan

Prepared by

Warriewood Residential Development VIA Architects

Construction and environment

Assessed floor area (m²)*

Conditioned*	116.0
Unconditioned*	97.0
Total	213.0
Garage	91.0

Suburban
NatHERS climate zone

Exposure Type

Accredited assessor

Business name

David Howard

Partners Energy Management david@partnersenergy.com.au

0421381005

20039

Accreditation No.

Assessor Accrediting Organisation

ABSA

Name

Email

Phone

Declaration of interest

Declaration completed: no conflicts



HOUSE ENERGY RATING SCHEME

51.3 MJ/m²

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
26.0	25.3
MJ/m ²	MJ/m ²

About the rating

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

Verification

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



p=xgqqLcEZP. 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?

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.

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

Downlights must not penetrate ceiling insulation

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	
ATB-005-03 B	ATB-005-03 B Al Thermally Broken A DG Argon Fill High Solar Gain low-E -Clear	2.9	0.44	0.44	0.44	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.51	0.51	

Custom* windows

Window ID	Window Maximum		SHGC*	Substitution tolerance ranges		
WINDOW ID	Description	U-value*	31160	SHGC lower limit	SHGC upper limit	
No Data Availabl	e					



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ATB-005-03 B	n/a	2700	2700	n/a	65	E	No
Kitchen/Living	ATB-005-03 B	n/a	2700	1148	n/a	90	E	No
Kitchen/Living	ATB-005-03 B	n/a	2700	2770	n/a	40	S	No
Kitchen/Living	ATB-005-03 B	n/a	2400	4000	n/a	65	W	Yes
Bath	ALM-003-01 A	n/a	3707	600	n/a	70	W	No
Bedroom 1	ATB-005-03 B	n/a	3707	600	n/a	40	S	No
Bedroom 1	ALM-003-01 A	n/a	3707	600	n/a	70	W	No
Bedroom 1	ATB-005-03 B	n/a	3707	1039	n/a	30	W	No
Bedroom 2	ATB-005-03 B	n/a	3707	600	n/a	40	S	No
Bedroom 3	ATB-005-03 B	n/a	2550	2050	n/a	45	E	No
Bedroom 3	ATB-005-03 B	n/a	857	2050	n/a	00	E	No
Bedroom 3	ATB-005-03 B	n/a	3407	2770	n/a	40	S	No
Bedroom 3	ATB-005-03 B	n/a	3407	1086	n/a	00	S	No

Roof window type and performance

Default* roof windows

Window ID	Windov	Window		Maximum		Subst	Substitution tolerance ranges		
window ID	Descrip	otion	U-valu	U-value*		SHGC low	er limit	SHG	C upper limit
No Data Ava	ailable								
Custom* roo	of windows								
Window ID	Window Maximum		SHGC*	Substitution tolera		lerance	ance ranges		
Des Des		otion	U-value*		3660	SHGC lower limit		SHGC upper limit	
No Data Ava	ailable								
Roof w	indow so	chedule							
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outde shade		Indoor shade

Skylight type and performance

Skylight ID	Skylight description
No Data Available	

5.9 Star Rating as of 22 Dec 2020



Skylight schedule

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

No Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage/Store	2400	5400	90	W

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	Foil, Anti-glare one side, Reflective other	Yes
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage/Store	EW-1	2550	5500	E	0	NO
Garage/Store	EW-1	2550	3100	S	0	NO
Garage/Store	EW-1	2550	13500	S	0	NO
Garage/Store	EW-1	2550	5500	W	0	NO
WC	EW-2	2700	895	W	0	NO
Kitchen/Living	EW-2	2700	5500	E	0	NO
Kitchen/Living	EW-2	2700	11800	S	0	NO
Kitchen/Living	EW-2	2700	4595	W	0	NO
Bath	EW-3	3800	1795	W	1300	NO
Bedroom 1	EW-3	3800	3795	S	0	NO
Bedroom 1	EW-3	3800	3695	W	1300	NO
Bedroom 2	EW-3	3800	4190	S	0	NO
Bedroom 3	EW-3	3800	3295	E	1200	NO
Bedroom 3	EW-3	3800	3795	S	0	NO
Ens	EW-3	3800	2195	E	1200	NO

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity brick		119.00	No Insulation



Wall ID	Wall type	Area (m)	Bulk insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation

Floor type

Location	Construction	Area Sub-floor (m ²) ventilation	Added insulation (R-value)	Covering
Garage/Store	Concrete Slab on Ground 100mm	91.30 None	No Insulation	Bare
WC/Garage/Store	Timber Above Plasterboard 100mm	2.10	Bulk Insulation R2.5	Ceramic Tiles 8mm
Kitchen/Living /Garage/Store	Timber Above Plasterboard 100mm	62.50	Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bath/WC	Timber Above Plasterboard 100mm	2.20	No Insulation	Ceramic Tiles 8mm
Bath/Kitchen/Living	Timber Above Plasterboard 100mm	3.40	No Insulation	Ceramic Tiles 8mm
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.60	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	13.30	No Insulation	Carpet+Rubber Underlay 18mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	5.50	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	12.80	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage/Store	Plasterboard	No insulation	No
Garage/Store	Timber Above Plasterboard	Bulk Insulation R2.5	No
WC	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Upstairs	Plasterboard	Bulk Insulation R3.5	No

Ceiling penetrations*

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

5.9 Star Rating as of 22 Dec 2020



Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		
Roof type		

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

* Refer to glossary. Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21) for Unit DW08, 25-27 Warriew ood rd , Warriew ood , 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.

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

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Nationwide House Energy Rating Scheme NatHERS Certificate No. 0004866711-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

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Unit DW09, 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 environme

Assessed floor area (m²)*

Conditioned*	116.0
Unconditioned*	97.0
Total	213.0
Garage	91.0

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





46.3 MJ/m²

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
22.4	23.8
MJ/m ²	MJ/m ²

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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

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Custom* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31160	SHGC lower limit	SHGC upper limit	
No Data Availab	le					



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ATB-005-03 B	n/a	2400	4000	n/a	65	W	Yes
Kitchen/Living	ATB-005-03 B	n/a	2700	2770	n/a	30	Ν	No
Kitchen/Living	ATB-005-03 B	n/a	2700	2700	n/a	65	E	No
Kitchen/Living	ATB-005-03 B	n/a	2700	1148	n/a	90	E	No
Bath	ALM-003-01 A	n/a	3707	600	n/a	70	W	No
Bedroom 1	ALM-003-01 A	n/a	3707	600	n/a	70	W	No
Bedroom 1	ATB-005-03 B	n/a	3707	1039	n/a	30	W	No
Bedroom 1	ATB-005-03 B	n/a	3707	600	n/a	30	Ν	No
Bedroom 2	ATB-005-03 B	n/a	3707	600	n/a	30	Ν	No
Bedroom 3	ATB-005-03 B	n/a	3407	2770	n/a	30	Ν	No
Bedroom 3	ATB-005-03 B	n/a	3407	1086	n/a	00	Ν	No
Bedroom 3	ATB-005-03 B	n/a	2550	2050	n/a	45	E	No
Bedroom 3	ATB-005-03 B	n/a	857	2050	n/a	00	E	No
Bedroom 3	ATB-005-03 B	n/a	807	2050	n/a	00	E	INO

Roof window type and performance

Default* roof windows

Window ID	Windov	Window		Maximum		Subst	Substitution tolerance ranges			
	Descrip	otion	U-valu	le*	SHGC*	SHGC low	er limit	SHG	C upper limit	
No Data Ava	ailable									
Custom* roo	of windows									
Window ID	Window	v	Maximum		SHGC*	Subst	Substitution tolerance ranges			
	Descrip	Description		U-value*		SHGC lower limit		SHGC upper limit		
No Data Ava	ailable									
Roof w	indow so	chedule								
Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outde shade		Indoor shade	

Skylight type and performance

Skylight ID	Skylight description				
No Data Available					

6.4 Star Rating as of 22 Dec 2020



Skylight schedule

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

No Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage/Store	2400	5400	90	W

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)		
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage/Store	EW-1	2550	5500	W	0	NO
Garage/Store	EW-1	2550	13500	Ν	0	NO
Garage/Store	EW-1	2550	3100	Ν	0	NO
Garage/Store	EW-1	2550	5500	E	0	NO
WC	EW-2	2700	895	W	0	NO
Kitchen/Living	EW-2	2700	4595	W	0	NO
Kitchen/Living	EW-2	2700	11800	N	0	NO
Kitchen/Living	EW-2	2700	5500	E	0	NO
Bath	EW-3	3800	1795	W	1300	NO
Bedroom 1	EW-3	3800	3695	W	1300	NO
Bedroom 1	EW-3	3800	3795	N	0	NO
Bedroom 2	EW-3	3800	4190	N	0	NO
Bedroom 3	EW-3	3800	3795	Ν	0	NO
Bedroom 3	EW-3	3800	3295	E	1200	NO
Ens	EW-3	3800	2195	E	1200	NO

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity brick		119.00	No Insulation



Wall ID	Wall type	Area (m)	Bulk insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation

Floor type

Location	Construction	Area Sub-floor (m ²) ventilation	Added insulation (R-value)	Covering
Garage/Store	Concrete Slab on Ground 100mm	91.30 None	No Insulation	Bare
WC/Garage/Store	Timber Above Plasterboard 100mm	2.10	Bulk Insulation R2.5	Ceramic Tiles 8mm
Kitchen/Living /Garage/Store	Timber Above Plasterboard 100mm	62.50	Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bath/WC	Timber Above Plasterboard 100mm	2.20	No Insulation	Ceramic Tiles 8mm
Bath/Kitchen/Living	Timber Above Plasterboard 100mm	3.40	No Insulation	Ceramic Tiles 8mm
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.60	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	13.30	No Insulation	Carpet+Rubber Underlay 18mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	5.50	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage/Store	Plasterboard	No insulation	No
Garage/Store	Timber Above Plasterboard	Bulk Insulation R2.5	No
WC	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Upstairs	Plasterboard	Bulk Insulation R3.5	No

Ceiling penetrations*

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

6.4 Star Rating as of 22 Dec 2020



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
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	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.

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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
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. 0004866307-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

Address

Lot/DP

Unit DW10, 25-27 Warriewood rd Warriewood, NSW, 2102

NCC Class*

1A

Type

New Dwelling

5464

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

Construction and environme

Assessed floor area (m²)*

Conditioned*	116.
Unconditioned*	97.0
Total	213.
Garage	91.0

Suburban NatHERS climate zone

Exposure Type



ccredited assessor

0

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





54.2 MJ/m²

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
29.2	25.0
MJ/m ²	MJ/m ²

About the rating

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

Verification

To verify this certificate, scan the QR code or visit



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

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

Downlights must not penetrate ceiling insulation

Window and glazed door type and performance

Default* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description U-value*		3000	SHGC lower limit	SHGC upper limit	
ATB-005-03 B	ATB-005-03 B Al Thermally Broken A DG Argon Fill High Solar Gain low-E -Clear	2.9	0.44	0.44	0.44	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.51	0.51	

Custom* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	31160	SHGC lower limit SHGC upper	SHGC upper limit	
No Data Availab	le					



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ATB-005-03 B	n/a	2700	2700	n/a	65	E	No
Kitchen/Living	ATB-005-03 B	n/a	2700	1148	n/a	90	E	No
Kitchen/Living	ATB-005-03 B	n/a	2700	2770	n/a	40	S	No
Kitchen/Living	ATB-005-03 B	n/a	2700	600	n/a	30	S	No
Kitchen/Living	ATB-005-03 B	n/a	2700	600	n/a	30	S	No
Kitchen/Living	ATB-005-03 B	n/a	2400	4000	n/a	65	W	Yes
Bath	ALM-003-01 A	n/a	3707	600	n/a	70	W	No
Bedroom 1	ATB-005-03 B	n/a	3707	600	n/a	30	S	No
Bedroom 1	ALM-003-01 A	n/a	3707	600	n/a	70	W	No
Bedroom 1	ATB-005-03 B	n/a	3707	1039	n/a	30	W	No
Bedroom 2	ATB-005-03 B	n/a	3707	600	n/a	30	S	No
Bedroom 3	ATB-005-03 B	n/a	2550	2050	n/a	45	E	No
Bedroom 3	ATB-005-03 B	n/a	857	2050	n/a	00	E	No
Bedroom 3	ATB-005-03 B	n/a	3407	2770	n/a	40	S	No
Bedroom 3	ATB-005-03 B	n/a	3407	1086	n/a	00	S	No

Roof window type and performance

Default* roof windows

Windov	Window Maximum		um	SUCC*	Substitution tolerance ranges			
Mindow ID Description U-value*		SHGC	SHGC lowe	er limit	SHO	GC upper limit		
able								
windows								
Windov	v	Maxim	um	SHCC*	Substitution tolerance range		e ranges	
Descrip	otion	U-value*		3660	SHGC lowe	er limit	SHO	GC upper limit
able								
Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation			Indoor shade
able								
t type an	d performa	ance						
		Skylight des	scription					
	able windows Window Descrip able Mindow SC Window ID able	able Windows Description able Mindow Schedule Window Window ID no.	able Windows Window Maxim Description U-valu able Mindow schedule Window Window Opening ID no. % able t type and performance	able Windows Window Description U-value* able Mindow Kindow Vindow Vindow Vindow Vindow Vindow Vindow (mm) able	able windows Window Description Maximum U-value* SHGC* able Window Window No. Opening Height Width ID no. t type and performance	Description U-value* Order SHGC lower able * * Substing Window Description Maximum U-value* SHGC* Substing able * * SHGC lower able * * * mdow schedule Opening Height (mm) Width (mm) Orientation able * * *	Description U-value* Stress SHGC lower limit able * * Substitution to Window Maximum SHGC* Substitution to Description U-value* SHGC* Substitution to able * SHGC lower limit * able Orientation Outdettie Mindow Window Opening Height Width ID no. % (mm) Orientation Outdet able * * * * t type and performance * * *	Description U-value* Street SHGC lower limit SHG able * * Substitution tolerance Window Maximum SHGC* Substitution tolerance Description U-value* SHGC* Substitution tolerance able * SHGC lower limit SHGC able Mindow SHGC* SHGC lower limit SHGC able * * * SHGC lower limit SHGC able * * * * SHGC lower limit SHGC able * * * * * * type and performance * * * * *

* Refer to glossary. Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21) for Unit DW10, 25-27 Warriew ood rd , Warriew ood , NSW , 2102 5.8 Star Rating as of 22 Dec 2020



Skylight schedule

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

No Data Available

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage/Store	2400	5400	90	W

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	Foil, Anti-glare one side, Reflective other	Yes
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage/Store	EW-1	2550	5500	E	0	NO
Garage/Store	EW-1	2550	3100	S	0	NO
Garage/Store	EW-1	2550	13500	S	0	NO
Garage/Store	EW-1	2550	5500	W	0	NO
WC	EW-2	2700	895	W	0	NO
Kitchen/Living	EW-2	2700	5500	E	0	NO
Kitchen/Living	EW-2	2700	11800	S	0	NO
Kitchen/Living	EW-2	2700	4595	W	0	NO
Bath	EW-3	3800	1795	W	1300	NO
Bedroom 1	EW-3	3800	3795	S	0	NO
Bedroom 1	EW-3	3800	3695	W	1300	NO
Bedroom 2	EW-3	3800	4190	S	0	NO
Bedroom 3	EW-3	3800	3295	E	1200	NO
Bedroom 3	EW-3	3800	3795	S	0	NO
Ens	EW-3	3800	2195	E	1200	NO

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity brick		119.00	No Insulation



Wall ID	Wall type	Area (m)	Bulk insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		72.00	No insulation

Floor type

Location	Construction	Area Sub-floor (m ²) ventilation	Added insulation (R-value)	Covering
Garage/Store	Concrete Slab on Ground 100mm	91.30 None	No Insulation	Bare
WC/Garage/Store	Timber Above Plasterboard 100mm	2.10	Bulk Insulation R2.5	Ceramic Tiles 8mm
Kitchen/Living /Garage/Store	Timber Above Plasterboard 100mm	62.50	Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Bath/WC	Timber Above Plasterboard 100mm	2.20	No Insulation	Ceramic Tiles 8mm
Bath/Kitchen/Living	Timber Above Plasterboard 100mm	3.40	No Insulation	Ceramic Tiles 8mm
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	12.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.60	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	13.30	No Insulation	Carpet+Rubber Underlay 18mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	5.50	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	12.80	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage/Store	Plasterboard	No insulation	No
Garage/Store	Timber Above Plasterboard	Bulk Insulation R2.5	No
WC	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Bath	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Upstairs	Plasterboard	Bulk Insulation R3.5	No

Ceiling penetrations*

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

5.8 Star Rating as of 22 Dec 2020



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
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.50	Medium

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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
Reflective wrap (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. 0004866349-01

Generated on 22 Dec 2020 using BERS Pro v4.4.0.2 (3.21)

Property

Address

Unit DW11, 25-27 Warriewood rd Warriewood , NSW , 2102

NCC Class*

1A

5464

Туре

Lot/DP

New Dwelling

Plans

Main Plan Prepared by

Warriewood Residential Development VIA Architects

Construction and environment

Assessed floor area (m²)*

Conditioned*	168.0
Unconditioned*	65.0
Total	233.0
Garage	60.0

Suburban
NatHERS climate zone

Exposure Type

CCREDINE A

Accredited 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



65.1 MJ/m²

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
39.7	25.4
MJ/m ²	MJ/m ²

About the rating

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

Verification

To verify this certificate, scan the QR code or visit



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

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

Downlights must not penetrate ceiling insulation

Window and glazed door type and performance

Default* windows

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
WINGOW ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ATB-006-03 B	ATB-006-03 B Al Thermally Broken B DG Argon Fill High Solar Gain low-E - Clear	2.9	0.51	0.51	0.51	
ALM-003-01 A	ALM-003-01 A Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.51	0.51	
Custom* window	VS					
Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges	
window ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	

No Data Available



Window and glazed door schedule

Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
ATB-006-03 B	n/a	2700	2700	n/a	75	E	No
ATB-006-03 B	n/a	2700	1149	n/a	90	E	No
ATB-006-03 B	n/a	2700	2673	n/a	40	S	No
ATB-006-03 B	n/a	2400	3000	n/a	75	W	Yes
ATB-006-03 B	n/a	3450	600	n/a	30	S	No
ALM-003-01 A	n/a	3707	600	n/a	90	W	No
ATB-006-03 B	n/a	3707	1038	n/a	30	W	No
ATB-006-03 B	n/a	3450	600	n/a	30	S	No
ATB-006-03 B	n/a	2550	1975	n/a	45	E	No
ATB-006-03 B	n/a	857	1975	n/a	00	E	No
ATB-006-03 B	n/a	3450	1200	n/a	00	S	No
ATB-006-03 B	n/a	2550	2673	n/a	30	S	No
ATB-006-03 B	n/a	600	1200	n/a	70	Ν	No
ALM-003-01 A	n/a	3707	600	n/a	90	W	No
	ID ATB-006-03 B ATB-006-03 B	ID no. ATB-006-03 B n/a ATB-006-03 B n/a	ID no. (mm) ATB-006-03 B n/a 2700 ATB-006-03 B n/a 2700 ATB-006-03 B n/a 2700 ATB-006-03 B n/a 2700 ATB-006-03 B n/a 2400 ATB-006-03 B n/a 3450 ATB-006-03 B n/a 3707 ATB-006-03 B n/a 3707 ATB-006-03 B n/a 3450 ATB-006-03 B n/a 600	ID no. (mm) (mm) ATB-006-03 B n/a 2700 2700 ATB-006-03 B n/a 2700 1149 ATB-006-03 B n/a 2700 2673 ATB-006-03 B n/a 2400 3000 ATB-006-03 B n/a 2400 3000 ATB-006-03 B n/a 3450 600 ATB-006-03 B n/a 3707 600 ATB-006-03 B n/a 3707 1038 ATB-006-03 B n/a 3450 600 ATB-006-03 B n/a 3450 1038 ATB-006-03 B n/a 3450 1038 ATB-006-03 B n/a 3450 1975 ATB-006-03 B n/a 857 1975 ATB-006-03 B n/a 3450 1200 ATB-006-03 B n/a 2550 2673 ATB-006-03 B n/a 600 1200	ID no. (mm) (mm) type ATB-006-03 B n/a 2700 2700 n/a ATB-006-03 B n/a 2700 1149 n/a ATB-006-03 B n/a 2700 2673 n/a ATB-006-03 B n/a 2400 3000 n/a ATB-006-03 B n/a 2400 3000 n/a ATB-006-03 B n/a 3450 600 n/a ATB-006-03 B n/a 3707 600 n/a ATB-006-03 B n/a 3707 1038 n/a ATB-006-03 B n/a 3707 1038 n/a ATB-006-03 B n/a 3450 600 n/a ATB-006-03 B n/a 2550 1975 n/a ATB-006-03 B n/a 857 1975 n/a ATB-006-03 B n/a 2550 2673 n/a ATB-006-03 B n/a 2550 2673 n/a ATB-006-03	ID no. (mm) (mm) type % ATB-006-03 B n/a 2700 2700 n/a 75 ATB-006-03 B n/a 2700 1149 n/a 90 ATB-006-03 B n/a 2700 2673 n/a 40 ATB-006-03 B n/a 2400 3000 n/a 75 ATB-006-03 B n/a 2400 3000 n/a 75 ATB-006-03 B n/a 2400 3000 n/a 30 ATB-006-03 B n/a 3450 600 n/a 30 ATB-006-03 B n/a 3707 1038 n/a 30 ATB-006-03 B n/a 3450 600 n/a 30 ATB-006-03 B n/a 3450 600 n/a 45 ATB-006-03 B n/a 857 1975 n/a 00 ATB-006-03 B n/a 3450 1200 n/a 30 ATB-006-03 B	ID no. (mm) type % Orientation ATB-006-03 B n/a 2700 2700 n/a 75 E ATB-006-03 B n/a 2700 1149 n/a 90 E ATB-006-03 B n/a 2700 2673 n/a 40 S ATB-006-03 B n/a 2700 2673 n/a 40 S ATB-006-03 B n/a 2400 3000 n/a 75 W ATB-006-03 B n/a 2400 3000 n/a 30 S ATB-006-03 B n/a 3707 600 n/a 30 S ATB-006-03 B n/a 3707 1038 n/a 30 W ATB-006-03 B n/a 3450 600 n/a 30 S ATB-006-03 B n/a 2550 1975 n/a 45 E ATB-006-03 B n/a 857 1975 n/a 00 <t< td=""></t<>

Roof window type and performance

Default* roof windows

Window	Maximum	SUCC*	Substitution tolerance ranges		
Description	U-value*	SUGC	SHGC lower limit	SHGC upper limit	
ble					
vindows					
Window	Maximum	SHCC*	Substitution to	lerance ranges	
Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
ble					
	Description Description Window Description	Description U-value*	Description U-value* SHGC* ble vindows Window Description U-value* SHGC*	Vincew Indexination SHGC* Description U-value* SHGC lower limit ole Shgc Substitution to Vindow Maximum SHGC* Description U-value* SHGC*	

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

5.1 Star Rating as of 22 Dec 2020



Skylight schedule

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

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation	
Garage 2	2400	5200	90	W	

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Fibro Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-2	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW-4	Brick Veneer	0.50	Medium	Foil, Anti-glare one side, Reflective other	Yes
EW-5	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2700	8655	Ν	0	NO
Kitchen/Living	EW-1	2700	5500	E	0	NO
Kitchen/Living	EW-1	2700	13400	S	0	NO
Kitchen/Living	EW-1	2700	3695	W	0	NO
Lift L2	EW-1	3450	1910	N	0	NO
Bedroom 1	EW-1	3450	5295	S	25	NO
Bedroom 1	EW-1	3800	3295	W	1200	NO
Bedroom 2	EW-1	3450	4190	S	50	NO
Bedroom 3	EW-1	3450	3295	E	1500	NO
Bedroom 3	EW-1	3450	3895	S	75	NO
Bath	EW-1	3450	2695	Ν	0	NO
Bath	EW-1	3450	2195	E	1500	NO
Upstairs	EW-1	3450	5950	N	0	NO
Ens	EW-1	3800	2195	W	1200	NO
Ens	EW-1	3450	2655	Ν	0	NO
Lift L1	EW-1	2700	1910	Ν	0	NO
WC	EW-1	2700	1795	W	0	NO
WC	EW-1	2700	2655	Ν	0	NO

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5.1 Star Rating as of 22 Dec 2020



Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Lift - Grd	EW-2	2550	1910	Ν	0	NO
Garage 2	EW-3	2550	11595	S	0	NO
Garage 2	EW-4	2550	5500	W	0	NO
Garage 2	EW-3	2550	6155	Ν	0	NO
Garage 2	EW-4	2550	3350	Ν	0	NO
Grd Entry/stair	EW-5	2550	3990	Ν	0	NO
Grd area 1	EW-2	2550	3195	Ν	0	NO
Grd area 1	EW-2	2550	2195	E	0	NO
Grd area 2	EW-2	2550	3295	E	0	NO
Grd area 2	EW-2	2550	7195	S	0	NO

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		89.00	No insulation
IW-2 - Concrete Block		44.00	No insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		14.00	Bulk Insulation, No Air Gap R2.5

Floor type

Location	Construction	Area Sub-floor (m ²) ventilatior	Added insulation (R-value)	Covering
Kitchen/Living /Garage 2	Timber Above Plasterboard 100mm	35.90	Bulk Insulation R2.5	Cork Tiles or Parquetry 8mm
Kitchen/Living /Grd Entry/stair	Timber Above Plasterboard 100mm	8.80	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /Grd area	Timber Above Plasterboard 100mm	2.80	No Insulation	Cork Tiles or Parquetry 8mm
Kitchen/Living /Grd area 2	Timber Above Plasterboard 100mm	17.40	No Insulation	Cork Tiles or Parquetry 8mm
Lift L2/Lift L1	Timber Above Plasterboard 100mm	3.40	No Insulation	Bare
Bedroom 1/Kitchen/Living	Timber Above Plasterboard 100mm	16.90	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	12.00	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	12.50	No Insulation	Carpet+Rubber Underlay 18mm
Bath/Kitchen/Living	Timber Above Plasterboard 19mm	5.70	No Insulation	Ceramic Tiles 8mm
Upstairs/Kitchen/Living	Timber Above Plasterboard 100mm	15.00	No Insulation	Cork Tiles or Parquetry 8mm
Ens/Kitchen/Living	Timber Above Plasterboard 100mm	1.00	No Insulation	Ceramic Tiles 8mm
Ens/WC	Timber Above Plasterboard 100mm	4.70	No Insulation	Ceramic Tiles 8mm
Lift L1/Lift - Grd	Timber Above Plasterboard 100mm	3.40	No Insulation	Bare
WC/Garage 2	Timber Above Plasterboard 100mm	4.70	Bulk Insulation R2.5	Ceramic Tiles 8mm

5.1 Star Rating as of 22 Dec 2020



Location	Construction	Area Sub-floor (m) ventilatio	Added insulation n (R-value)	Covering
Lift - Grd	Concrete Slab on Ground 19mm	3.40 None	Bulk Insulation in Contact with Floor R1.5	Bare
Garage 2	Concrete Slab on Ground 100mm	59.70 None	No Insulation	Bare
Grd Entry/stair	Concrete Slab on Ground 100mm	8.40 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Grd area 1	Concrete Slab on Ground 100mm	6.80 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Grd area 2	Concrete Slab on Ground 100mm	23.30 None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Lift L2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 1	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
Upstairs	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Lift L1	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
Lift - Grd	Timber Above Plasterboard	No Insulation	No
Garage 2	Plasterboard	No insulation	No
Garage 2	Timber Above Plasterboard	Bulk Insulation R2.5	No
Grd Entry/stair	Timber Above Plasterboard	No Insulation	No
Grd area 1	Plasterboard	Bulk Insulation R3.5	No
Grd area 1	Timber Above Plasterboard	No Insulation	No
Grd area 2	Plasterboard	Bulk Insulation R3.5	No
Grd area 2	Timber Above Plasterboard	No Insulation	No

Ceiling penetrations*

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

5.1 Star Rating as of 22 Dec 2020



Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.50	Medium
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 dw elling 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 dw elling 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.			
, initial offer gy load	the floor area modelled in the software for the purpose of the NathERS assessment. Note, this may not be consistent with the floor area in the			
Assessed floor area	design documents.			
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.			
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	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered			
Exposure category - open	sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).			
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10me.g. suburban housing, heavily vegetated bushland areas.			
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m.e.g. city and industrial areas.			
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(NOC) Class	buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.			
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	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional			
Provisional value	value of 'medium' must be modelled. Acceptable provisional values are outlined in the 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 as officiant (CLCC)	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.			
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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).			

THERMAL PERFORMANCE SPECIFICATIONS:

Specification for Town Houses.

The following specifications take precedence over other

plan notations for the construction of this building. NOTE: In addition to BASIX commitments; building compliance is required to comply with the 'New South Wales Additions' in the current edition of the NCC – Vol. 2, at the time of building. This includes New South Wales Parts 2.6 and 3.12. Specific mention is made of the following provisions:

- Building Fabric Thermal Insulation

(NOTE: If steel framing is used a thermal break may be required)

- Building Sealing

- Building Services

(NOTE: Ventilation requirements of Section 3.8.5.2 c (ii) (B) must also be complied with and this means bathrooms should not normally be exhausted into roofspaces.)

WINDOWS (total product specification – glass + frame)

U-value 2.90 (or less than) & SHGC 0.51 (+/-5%) (typically: Double glazing in AL. frame) (DW11) U-value 2.90 (or less than) & SHGC 0.44 (+/-5%) (typically: Tinted Double glazing in AL. frame) (generally) U-value 4.80 (or less than) & SHGC 0.51 (+/-5%) (typically: tinted Low-e in AL. frame) (louvres)

EXTERNAL WALL (Medium colour)

Concrete Block – R1.5 Bulk insulation with vapour barrier (adjacent to earth) Cavity Panel – R2.5 – 90mm thick Bulk insulation with vapour barrier

INTERNAL WALL

Cavity Panel – No Insulation (generally) Cavity Panel – R2.5 – 90mm thick Bulk insulation (between Garage & Living areas)

EXTERNAL FLOOR

Concrete Slab on Ground – No insulation Suspended Timber (Open Sub-Floor) – R2.5 Bulk insulation

CEILING SPACE with ROOF ABOVE

Plasterboard – R3.5 bulk insulation (Nil insulation required for external Garage ceilings) Plasterboard – R3.0 bulk insulation (in Garage ceiling)

ROOF (Medium colour) (Non-ventilated)

Sheet Metal Roofing – 55mm Foil Blanket with Reflective airgap

RATED either with NO DOWNLIGHTS or with LED downlights which do not penetrate ceiling insulation (ie: IC rated)