Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006709737

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Proposed Road , WERRINGTON , NSW , 2747

Lot/DP

NCC Class* Type

New Dwelling

Plans

Main Plan Prepared by

9900051 AN

1504/.

1A

Construction and environment

Assessed floor area (m²)*

| Conditioned* | 138.0 |
|----------------|-------|
| Unconditioned* | 46.0 |
| Total | 184.0 |
| Garage | 30.0 |

Exposure Type Suburban NatHERS climate zone

Accredited assessor

Name Business name Email Phone Accreditation No.

Silman Building Pty Ltd chris@silmanbuilding.com.au 0417487743 20753

Christina Silman

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts

The more energy efficient NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars

87.8 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 |
|-------------------|-------------------|
| 46.3 | 41.5 |
| 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=zEpKFKAhK. 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

R2.5 to internal walls of garage

Window and glazed door type and performance

Default* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|--------------|--------------------------------------|----------------|------------------|-------------------------------|------|--|
| WINDOW ID | Description | otion U-value* | SHGC lower limit | SHGC upper limit | | |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 | |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 | |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 | |

Custom* windows

| Window ID | Window | findow Maximum | | Substitution tolerance ranges | | |
|-----------------|-------------|----------------|-------|-------------------------------|------------------|--|
| | Description | U-value* | SHGC* | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1800 | 2400 | n/a | 34 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1000 | 1600 | n/a | 45 | S | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2700 | n/a | 60 | E | No |
| PR | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | S | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1400 | n/a | 45 | S | No |
| Media/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | W | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 1800 | n/a | 30 | Ν | No |
| Bedroom | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 4 | ALM-001-01 A | n/a | 1200 | 800 | n/a | 10 | Ν | No |
| Bedroom 4 | ALM-002-01 A | n/a | 1200 | 1600 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1800 | 600 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 1800 | n/a | 45 | Ν | No |
| WIR | ALM-002-01 A | n/a | 600 | 1800 | n/a | 00 | E | No |
| Bath | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | E | No |
| Ensuite | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | Ν | No |
| Upper Sitting | ALM-002-01 A | n/a | 600 | 2400 | n/a | 45 | S | No |

Roof window type and performance

Default* roof windows

| Window ID | Windov | v | Maxim | um | 0110.0* | Substi | itution tole | lerance ranges | |
|--------------|-----------------------------------|---------------|--------------|------------------|---------------|------------------|------------------------------|------------------|--|
| window ID | dow ID Description U-value* SHGC* | SHGC lowe | er limit | SHGC upper limit | | | | | |
| No Data Avai | lable | | | | | | | | |
| Custom* root | fwindows | | | | | | | | |
| Window ID | Windov | v | Maxim | um | SHGC* | Substi | Substitution tolerance range | | |
| | Descrip | otion | U-valı | ue* | SHGC | SHGC lower limit | | SHGC upper limit | |
| No Data Avai | lable | | | | | | | | |
| Roof wi | ndow so | chedule | | | | | | | |
| Location | Window ID | Window no. | Opening % | Height (mm) | Width (mm) | Orientation | Outdo shade | | |
| No Data Avai | lable | | | | | | | | |



Skylight type and performance

Skylight ID

Skylight description

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation | |
|----------|-------------|------------|-----------|-------------|--|
| Garage | 2040 | 4800 | 90 | Ν | |

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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:7W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:8W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:8W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:9W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:10W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-9 | Fibro Cavity Panel Direct FixZ:10W2:2 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-10 | Fibro Cavity Panel Direct FixZ:12W2:1 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 6345 | S | 600 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 4495 | E | 50 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 2000 | S | 4200 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 3600 | E | 3600 | YES |
| PR | EW-1 | 2550 | 1090 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 1595 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 3545 | W | 600 | NO |
| Media/Entry | EW-1 | 2550 | 700 | W | 50 | YES |
| | | | | | | |

* Refer to glossary. Documented on 26. Of 2861 using BERS Pro v4.4.0.6 (3.21) for Proposed Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

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5.9 Star Rating as of 26 Oct 2021



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|---------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Media/Entry | EW-1 | 2550 | 1850 | Ν | 1550 | YES |
| Media/Entry | EW-1 | 2550 | 1500 | W | 1900 | YES |
| Media/Entry | EW-1 | 2550 | 3050 | Ν | 50 | NO |
| Media/Entry | EW-1 | 2550 | 950 | E | 50 | YES |
| Media/Entry | EW-1 | 2550 | 600 | Ν | 50 | YES |
| Media/Entry | EW-1 | 2550 | 2245 | E | 50 | NO |
| Garage | EW-2 | 2550 | 5545 | W | 50 | NO |
| Garage | EW-2 | 2550 | 5545 | Ν | 50 | YES |
| Bedroom | EW-3 | 2400 | 3295 | S | 600 | NO |
| Bedroom | EW-1 | 2400 | 3645 | E | 600 | NO |
| Bedroom 3 | EW-3 | 2400 | 3245 | S | 600 | NO |
| Bedroom 3 | EW-1 | 900 | 3945 | W | 0 | NO |
| Bedroom 3 | EW-4 | 1500 | 3945 | W | 600 | NO |
| Bedroom 4 | EW-1 | 900 | 3245 | W | 0 | NO |
| Bedroom 4 | EW-5 | 1500 | 3245 | W | 600 | NO |
| Bedroom 4 | EW-1 | 900 | 3845 | Ν | 0 | NO |
| Bedroom 4 | EW-6 | 1500 | 3845 | Ν | 600 | NO |
| Bedroom 1 | EW-3 | 900 | 1850 | Ν | 0 | NO |
| Bedroom 1 | EW-7 | 1500 | 1850 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 1995 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 2200 | W | 600 | YES |
| WIR | EW-1 | 900 | 1045 | Ν | 0 | NO |
| WIR | EW-8 | 1500 | 1045 | Ν | 600 | NO |
| WIR | EW-1 | 900 | 950 | E | 0 | YES |
| WIR | EW-9 | 1500 | 950 | E | 1550 | YES |
| WIR | EW-1 | 2400 | 600 | Ν | 1550 | YES |
| WIR | EW-3 | 2400 | 2245 | E | 950 | NO |
| Bath | EW-1 | 2400 | 2540 | E | 600 | NO |
| Ensuite | EW-1 | 900 | 1690 | Ν | 0 | YES |
| Ensuite | EW-10 | 1500 | 1690 | Ν | 600 | YES |
| Upper Sitting | EW-3 | 2400 | 4490 | S | 600 | NO |

Internal wall type

| Wall ID | Wall type | Area (m²) | Bulk insulation |
|---|-----------|-----------|----------------------------------|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | | 117.00 | No insulation |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | | 28.00 | Bulk Insulation, No Air Gap R2.5 |



Floor type

| Location | Construction | Area Sub-floor (m ²) ventilation | Added insulation (R-value) | Covering |
|----------------------------------|-----------------------------------|---|----------------------------|-----------------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 48.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 1.90 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Media/Entry | Waffle pod slab 225 mm 100mm | 14.00 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.30 None | Waffle Pod 225mm | Bare |
| Bedroom /Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom | Suspended Timber Floor 19mm | 3.30 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Laundry | Timber Above Plasterboard 19mm | 2.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Garage | Timber Above Plasterboard 19mm | 7.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Garage | Timber Above Plasterboard 19mm | 12.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 0.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Media/Entry | Timber Above Plasterboard 19mm | 9.20 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1 | Suspended Timber Floor 19mm | 2.70 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR/Media/Entry | Timber Above Plasterboard 19mm | 4.50 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.00 | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Garage | Timber Above Plasterboard 19mm | 5.00 | No Insulation | Ceramic Tiles 8mm |
| Upper Sitting/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 16.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Sitting/Garage | Timber Above Plasterboard 19mm | 4.80 | No Insulation | Carpet+Rubber Underlay 18mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|--|---------------------|
| Kit/Meals/Loung | Plasterboard | Bulk Insulation R4 | No |
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Media/Entry | Timber Above Plasterboard | No Insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |

0006709737 NatHERS Certificate

5.9 Star Rating as of 26 Oct 2021



| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|---------------|-------------------------------|--|---------------------|
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |
| WIR | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |
| Upper Sitting | Plasterboard | Bulk Insulation R4 | No |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available | | |
| | | |

Roof type

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



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

| Annual energy load | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions. |
|---|---|
| Assessed floor area | the floor area modelled in the software for the purpose of the NathERS assessment. Note, this may not be consistent with the floor area in the |
| Assessed noor area | design documents. |
| Ceiling penetrations | features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes |
| Celling penetrations | fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. |
| Conditioned | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it |
| Conditioned | will include garages. |
| Custom windows | windows listed in Nathers software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. |
| Default windows | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. |
| Entrance door | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor |
| | in a Class 2 building. |
| Exposure category – exposed | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). |
| Exposure category - open | terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered |
| Exposure category - open | sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors). |
| Exposure category – suburban | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas. |
| Exposure category – protected | terrain with numerous, closely spaced obstructions over 10 me.g. city and industrial areas. |
| Horizontal shading feature | provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper |
| Horizontai shaung leature | 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. |
| Solar heat gain coefficient (SHGC) | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released |
| | inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits. |
| Skylight (also known as roof lights) | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level. |
| U-value | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. |
| Unconditioned | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. |
| Vortical shading foaturos | 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). |

* Refer to glossary. Docomerates on the sense of the sens

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006709745

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Property

Address

Proposed Road , WERRINGTON , NSW , 2747

Lot/DP

Type

NCC Class*

IU

Plans

Main Plan Prepared by

AN

9900051

1505/.

New Dwelling

1A

Construction and environment

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|----------------|-------|
| Unconditioned* | 46.0 |
| Total | 187.0 |
| Garage | 30.0 |

Exposure Type Suburban NatHERS climate zone

Accredited assessor

Name Business name Email Phone Accreditation No.

Silman Building Pty Ltd chris@silmanbuilding.com.au 0417487743 20753

Christina Silman

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts

The more energy efficient NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars

89.6 MJ/m²

R

a

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

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| Heating | Coolin |
|-------------------|-------------------|
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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

R2.5 to internal walls of garage

Window and glazed door type and performance

Default* windows

| Window ID | Window Description | Maximum U-value* | SHGC* | Substitution tolerance ranges | |
|--------------|--------------------------------------|---------------------|-------|-------------------------------|------------------|
| | | | 3660 | SHGC lower limit | SHGC upper limit |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 |

Custom* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|-----------------|-------------|----------|-------|-------------------------------|------------------|--|
| | Description | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1800 | 2400 | n/a | 34 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1000 | 1600 | n/a | 45 | S | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2700 | n/a | 60 | E | No |
| PR | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | S | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1400 | n/a | 45 | S | No |
| Media/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 1500 | n/a | 45 | Ν | No |
| Bedroom | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 4 | ALM-001-01 A | n/a | 1500 | 2400 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1400 | 3000 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1400 | 1000 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1400 | 1000 | n/a | 00 | W | No |
| Bath | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | E | No |
| Ensuite | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | Ν | No |
| Upper Sitting | ALM-002-01 A | n/a | 600 | 2400 | n/a | 45 | S | No |

Roof window type and performance

Default* roof windows

| Windov | v | Maxim | um | SUCC* | Subst | Substitution toler | | |
|----------------------------|--|--|---|---------------------------------------|---|---|--|--|
| Description U-value* SHGC* | | SHGC | SHGC low | er limit | SHGC upper limit | | | |
| ilable | | | | | | | | |
| of windows | | | | | | | | |
| Window | v | Maxim | um | SHCC* | Subst | itution tole | erance ranges | |
| Descrip | otion | U-val | ue* | 31160 | SHGC low | er limit | SHGC upper limit | |
| ilable | | | | | | | | |
| indow so | chedule | | | | | | | |
| Window ID | Window no. | Opening % | Height (mm) | Width (mm) | Orientation | Outdo shade | or Indoor shade | |
| | Descrij ilable of windows Window Descrij ilable indow Sc Window | ilable of windows Window Description ilable indow schedule Window Window | Description U-value ilable of windows Window Maxim Description U-value ilable indow schedule Window Window Opening | Description U-value* ilable | Description U-value* SHGC* ilable ilable ilable Window Description Maximum U-value* SHGC* ilable ilable ilable imdow schedule Window Window | Vincov Maximum SHGC* Description U-value* SHGC low ilable Maximum SHGC* Subst Window Maximum SHGC* Subst Description U-value* SHGC* Subst ilable SHGC low SHGC low ilable U-value* SHGC* Subst ilable U-value* SHGC* SHGC low ilable U-value* SHGC* Orientation | Vincov Intextitution SHGC* Description U-value* SHGC lower limit ilable Maximum SHGC* Substitution tole of windows U-value* SHGC* Substitution tole Window Maximum U-value* SHGC* Substitution tole ilable U-value* SHGC lower limit SHGC lower limit ilable U-value* SHGC* Outdow Window Window Opening Height Width Orientation Outdow | |

No Data Available



Skylight type and performance

Skylight ID Skylight description

No Data Available

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation | |
|----------|-------------|------------|-----------|-------------|--|
| Garage | 2040 | 4800 | 90 | Ν | |

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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:6W2:4 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:7W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:8W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:8W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:12W2:1 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 6345 | S | 600 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 4495 | E | 50 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 2000 | S | 4200 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 3600 | E | 3600 | YES |
| PR | EW-1 | 2550 | 1090 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 1595 | S | 600 | NO |
| Media/Entry | EW-1 | 2550 | 700 | W | 400 | YES |
| Media/Entry | EW-1 | 2550 | 1850 | Ν | 2150 | YES |
| Media/Entry | EW-1 | 2550 | 1750 | W | 2250 | YES |
| Media/Entry | EW-1 | 2550 | 3650 | Ν | 400 | NO |

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| 5.9 Star | Rating | as of 26 | Oct 2021 |
|----------|--------|----------|----------|
| 0.0 0.01 | ruung | 40 01 20 | 2021 |



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|---------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Media/Entry | EW-1 | 2550 | 3445 | E | 50 | NO |
| Garage | EW-2 | 2550 | 5545 | Ν | 50 | YES |
| Bedroom | EW-3 | 2400 | 3295 | S | 600 | NO |
| Bedroom | EW-1 | 2400 | 1945 | E | 600 | NO |
| Bedroom | EW-3 | 900 | 1700 | E | 0 | NO |
| Bedroom | EW-4 | 1500 | 1700 | E | 600 | NO |
| Bedroom 3 | EW-3 | 2400 | 3245 | S | 600 | NO |
| Bedroom 3 | EW-5 | 1500 | 3945 | W | 50 | NO |
| Bedroom 4 | EW-6 | 1500 | 3245 | W | 50 | NO |
| Bedroom 4 | EW-1 | 300 | 3845 | Ν | 0 | NO |
| Bedroom 4 | EW-7 | 2100 | 3845 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 3945 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 2450 | W | 600 | YES |
| WIR | EW-1 | 2400 | 1545 | Ν | 600 | NO |
| WIR | EW-1 | 2400 | 3445 | E | 600 | NO |
| Bath | EW-1 | 2400 | 2540 | E | 600 | NO |
| Ensuite | EW-1 | 300 | 1690 | Ν | 0 | YES |
| Ensuite | EW-8 | 2100 | 1690 | Ν | 600 | YES |
| Upper Sitting | EW-3 | 2400 | 4490 | S | 600 | NO |

Internal wall type

| Wall ID | Wall type Area | ea (m ²) Bulk insulation | |
|---|----------------|--|--|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | 117 | 17.00 No insulation | |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | 28. | 28.00 Bulk Insulation, No Air Gap R2.5 | |
| IW-3 - Shaft liner party wall with plaster | 30. | Bulk Insulation both sides of shaft liner R2 | |

Floor type

| Location | Construction | Area Sub-floor (m ²) ventilation | Added insulation (R-value) | Covering |
|--------------------------|-----------------------------------|---|----------------------------|-----------------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 48.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 1.90 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Media/Entry | Waffle pod slab 225 mm 100mm | 15.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.30 None | Waffle Pod 225mm | Bare |
| Bedroom /Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom | Suspended Timber Floor 19mm | 3.30 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |



| Location | Construction | Area Sub-floor (m) ventilation | Added insulation (R-value) | Covering |
|----------------------------------|-----------------------------------|-----------------------------------|----------------------------|-----------------------------|
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Laundry | Timber Above Plasterboard 19mm | 2.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Garage | Timber Above Plasterboard 19mm | 7.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Garage | Timber Above Plasterboard 19mm | 12.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 0.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Media/Entry | Timber Above Plasterboard 19mm | 10.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1 | Suspended Timber Floor 19mm | 3.10 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR/Media/Entry | Timber Above Plasterboard 19mm | 5.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.00 | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Garage | Timber Above Plasterboard 19mm | 5.00 | No Insulation | Ceramic Tiles 8mm |
| Upper Sitting/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 16.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Sitting/Garage | Timber Above Plasterboard 19mm | 4.80 | No Insulation | Carpet+Rubber Underlay 18mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|---|---------------------|
| Kit/Meals/Loung | Plasterboard | Bulk Insulation R4 | No |
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Media/Entry | Timber Above Plasterboard | No Insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |
| WIR | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |
| Upper Sitting | Plasterboard | Bulk Insulation R4 | No |
| | | | |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |

* Refer to glossary. Documented on 26 OF 2821 using BERS Pro v4.4.0.6 (3.21) for Proposed Road , WERRINGTON , NSW , 2747 Version: 1, Version Date: 04/11/2021

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| Location | Quantity | Туре | Diameter (mm) | Sealed/unsealed | |
|----------|----------|--------------|---------------|-----------------|--|
| Bath | 1 | Exhaust Fans | 300 | Sealed | |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed | |

Ceiling fans

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

| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |
|------------|--|------|------|



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

| Annual energy load | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions. |
|---|--|
| | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the |
| Assessed floor area | design documents. |
| Ceiling penetrations | features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes |
| Celling penetrations | fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. |
| Conditioned | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it |
| Conditioned | will include garages. |
| Custom windows | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. |
| Default windows | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. |
| Entrance door | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor 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 Nathers this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser. |
| Shading device | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves. |
| Shading features | includes neighbouring buildings, fences, and wing walls, but excludes eaves. |
| | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released |
| Solar heat gain coefficient (SHGC) | inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits. |
| Skylight (also know n as roof lights) | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level. |
| U-value | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. |
| Unconditioned | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. |
| Vortical chading factures | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy |
| Vertical shading features | screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees). |

* Refer to glossary. Docomerates on the sense of the sens

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006709752

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Proposed Road , WERRINGTON , NSW , 2747

Lot/DP

Type

NCC Class*

New Dwelling

Plans

Main Plan Prepared by

AN

9900051

1506/.

1A

Construction and environment

Assessed floor area (m²)*

| Conditioned* | 141.0 | | | |
|----------------|-------|--|--|--|
| Unconditioned* | 46.0 | | | |
| Total | 187.0 | | | |
| Garage | 30.0 | | | |

Exposure Type Suburban NatHERS climate zone

Accredited assessor

Name Business name Email Phone Accreditation No.

Silman Building Pty Ltd chris@silmanbuilding.com.au 0417487743 20753

Christina Silman

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts

the more energy efficient NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars

84.3 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 |
|-------------------|-------------------|
| 51.3 | 33.0 |
| 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=NZARHQXae. 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

R2.5 to internal walls of garage

Window and glazed door type and performance

Default* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|--------------|--------------------------------------|----------|-------|-------------------------------|------------------|--|
| | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit | |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 | |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 | |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 | |

Custom* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|-----------------|-------------|----------|-------|-------------------------------|------------------|--|
| | Description | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2700 | n/a | 60 | W | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | W | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | W | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1800 | 2400 | n/a | 34 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1000 | 1600 | n/a | 45 | S | No |
| PR | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | S | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1400 | n/a | 45 | S | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 1500 | n/a | 60 | Ν | No |
| Media/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Bedroom | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 4 | ALM-002-01 A | n/a | 2100 | 1800 | n/a | 45 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 400 | 600 | n/a | 00 | E | No |
| Bedroom 1 | ALM-002-01 A | n/a | 400 | 1500 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1500 | 1000 | n/a | 10 | Ν | No |
| WIR | ALM-002-01 A | n/a | 1500 | 500 | n/a | 00 | Ν | No |
| Bath | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | W | No |
| Ensuite | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | Ν | No |
| Upper Sitting | ALM-002-01 A | n/a | 600 | 2400 | n/a | 45 | S | No |
| | | | | | | | | |

Roof window type and performance

Default* roof windows

| Window ID | Window | Window | | Maximum | | Substi | Substitution tolerance ranges | | | |
|----------------------|------------|---------|---------|-----------|----------|------------------|-------------------------------|-----------------------|--|--|
| Description U-value* | | ue* | SHGC* | SHGC lowe | er limit | SHGC upper limit | | | | |
| No Data Ava | ilable | | | | | | | | | |
| Custom* roc | of windows | | | | | | | | | |
| Window ID | Window | - | Maxim | um | SHGC* | | | tion tolerance ranges | | |
| | Descri | ption | U-val | ue* | 51100 | SHGC lowe | er limit | SHGC upper limit | | |
| No Data Ava | ilable | | | | | | | | | |
| Roof w | indow so | chedule | | | | | | | | |
| Location | Window | Window | Opening | Height | Width | Orientation | Outdoo | r Indoor | | |

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



Skylight type and performance

Skylight ID

Skylight description

| No Data A | Available |
|-----------|-----------|
| | |

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation | |
|----------|-------------|------------|-----------|-------------|--|
| Garage | 2040 | 4800 | 90 | Ν | |

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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:6W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:7W2:2 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:8W2:5 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:8W2:6 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:9W2:8 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-9 | Fibro Cavity Panel Direct FixZ:10W2:3 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-10 | Fibro Cavity Panel Direct FixZ:12W2:6 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 3600 | W | 3600 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 2000 | S | 4200 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 4495 | W | 50 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 6345 | S | 600 | NO |
| PR | EW-1 | 2550 | 1090 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 1595 | S | 600 | NO |
| Media/Entry | EW-1 | 2550 | 3445 | W | 50 | NO |
| Media/Entry | EW-1 | 2550 | 3650 | Ν | 50 | NO |
| | | | | | | |

* Refer to glossary. Documented on 26. Of 2861 using BERS Pro v4.4.0.6 (3.21) for Proposed Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

0006709752 NatHERS Certificate

6.1 Star Rating as of 26 Oct 2021



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|---------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Media/Entry | EW-1 | 2550 | 1750 | E | 2000 | YES |
| Media/Entry | EW-1 | 2550 | 1850 | Ν | 1800 | YES |
| Media/Entry | EW-1 | 2550 | 700 | E | 5650 | YES |
| Garage | EW-2 | 2550 | 5545 | Ν | 1300 | YES |
| Bedroom | EW-3 | 900 | 1700 | W | 0 | NO |
| Bedroom | EW-4 | 1500 | 1700 | W | 600 | NO |
| Bedroom | EW-1 | 2400 | 1945 | W | 600 | NO |
| Bedroom | EW-3 | 2400 | 3295 | S | 600 | NO |
| Bedroom 3 | EW-5 | 1500 | 3945 | E | 50 | NO |
| Bedroom 3 | EW-3 | 2400 | 3245 | S | 600 | NO |
| Bedroom 4 | EW-1 | 300 | 3845 | Ν | 0 | NO |
| Bedroom 4 | EW-6 | 2100 | 3845 | Ν | 1800 | NO |
| Bedroom 4 | EW-7 | 1500 | 3245 | E | 50 | NO |
| Bedroom 1 | EW-1 | 2400 | 2450 | E | 5600 | YES |
| Bedroom 1 | EW-1 | 300 | 3945 | Ν | 0 | NO |
| Bedroom 1 | EW-8 | 2100 | 3945 | Ν | 600 | NO |
| WIR | EW-1 | 2400 | 2295 | W | 600 | NO |
| WIR | EW-3 | 2400 | 1150 | W | 600 | NO |
| WIR | EW-1 | 300 | 1545 | Ν | 0 | NO |
| WIR | EW-9 | 2100 | 1545 | Ν | 600 | NO |
| Bath | EW-1 | 2400 | 2540 | W | 600 | NO |
| Ensuite | EW-1 | 300 | 1690 | Ν | 0 | YES |
| Ensuite | EW-10 | 2100 | 1690 | Ν | 1800 | YES |
| Upper Sitting | EW-3 | 2400 | 4490 | S | 600 | NO |

Internal wall type

| Wall ID | Wall type Area | (m ²) Bulk insulation |
|---|----------------|---|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | 117 | .00 No insulation |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | 28. | 00 Bulk Insulation, No Air Gap R2.5 |
| IW-3 - Shaft liner party wall with plaster | 30. | 00 Bulk Insulation both sides of shaft liner R2 |

Floor type

| Location | Construction | | ub-floor entilation | Added insulation (R-value) | Covering |
|-----------------|------------------------------|---------|------------------------|----------------------------|-------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 48.40 N | lone | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 1.90 N | lone | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.40 N | lone | Waffle Pod 225mm | Ceramic Tiles 8mm |

* Refer to glossary. Doctimented on 16:97980 using BERS Pro v4.4.0.6 (3.21) for Proposed Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

6.1 Star Rating as of 26 Oct 2021



| Location | Construction | Area Sub-floor (m) ventilation | Added insulation (R-value) | Covering |
|----------------------------------|-----------------------------------|-----------------------------------|----------------------------|-----------------------------|
| Media/Entry | Waffle pod slab 225 mm 100mm | 15.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.30 None | Waffle Pod 225mm | Bare |
| Bedroom /Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom | Suspended Timber Floor 19mm | 3.30 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Laundry | Timber Above Plasterboard 19mm | 2.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Garage | Timber Above Plasterboard 19mm | 7.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Garage | Timber Above Plasterboard 19mm | 12.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 0.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Media/Entry | Timber Above Plasterboard 19mm | 10.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1 | Suspended Timber Floor 19mm | 3.10 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR/Media/Entry | Timber Above Plasterboard 19mm | 5.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.00 | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Garage | Timber Above Plasterboard 19mm | 5.00 | No Insulation | Ceramic Tiles 8mm |
| Upper Sitting/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 16.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Sitting/Garage | Timber Above Plasterboard 19mm | 4.80 | No Insulation | Carpet+Rubber Underlay 18mm |

Ceiling type

| Location Construction material/type | | Bulk insulation R-value (may include edge batt values) | Reflective wrap* | |
|-------------------------------------|---------------------------|---|---------------------|--|
| Kit/Meals/Loung | Plasterboard | Bulk Insulation R4 | No | |
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No | |
| PR | Plasterboard | Bulk Insulation R4 | No | |
| Laundry | Plasterboard | Bulk Insulation R4 | No | |
| Laundry | Timber Above Plasterboard | No Insulation | No | |
| Media/Entry | Timber Above Plasterboard | No Insulation | No | |
| Garage | Timber Above Plasterboard | No Insulation | No | |
| Bedroom | Plasterboard | Bulk Insulation R4 | No | |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No | |
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No | |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No | |
| WIR | Plasterboard | Bulk Insulation R4 | No | |
| Bath | Plasterboard | Bulk Insulation R4 | No | |
| Ensuite | Plasterboard | Bulk Insulation R4 | No | |



| Location | Construction | Bulk insulation R-value | Reflective |
|---------------|---------------|--------------------------------|------------|
| | material/type | (may include edge batt values) | wrap* |
| Upper Sitting | Plasterboard | Bulk Insulation R4 | No |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available | | |
| Roof type | | |

| Construction | Added insulation (R-value) | Solar absorptance | Roof shade |
|--------------|--|-------------------|------------|
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

| Annual energy load | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions. | | | | | |
|---|--|--|--|--|--|--|
| | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the | | | | | |
| Assessed floor area | design documents. | | | | | |
| Ceiling penetrations | features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes | | | | | |
| Celling penetrations | fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. | | | | | |
| Conditioned | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it | | | | | |
| Conditioned | will include garages. | | | | | |
| Custom windows | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. | | | | | |
| Default windows | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. | | | | | |
| Entrance door | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor 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 Nathers this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser. | | | | | |
| Shading device | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves. | | | | | |
| Shading features | includes neighbouring buildings, fences, and wing walls, but excludes eaves. | | | | | |
| | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released | | | | | |
| Solar heat gain coefficient (SHGC) | inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits. | | | | | |
| Skylight (also know n as roof lights) | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level. | | | | | |
| U-value | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. | | | | | |
| Unconditioned | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. | | | | | |
| Vortical chading factures | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy | | | | | |
| Vertical shading features | screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees). | | | | | |

* Refer to glossary. Docomerates on the sense of the sens

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006709760

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Proposed Road , WERRINGTON , NSW , 2747

Lot/DP

Type

NCC Class*

New Dwelling

Plans

Main Plan Prepared by

9900051 AN

1507/.

1A

Construction and environment

Assessed floor area (m²)*

| Conditioned* | 130.0 | | |
|----------------|-------|--|--|
| Unconditioned* | 43.0 | | |
| Total | 173.0 | | |
| Garage | 31.0 | | |

Exposure Type Suburban NatHERS climate zone

Accredited assessor

Name Business name Email Phone Accreditation No.

Silman Building Pty Ltd chris@silmanbuilding.com.au 0417487743 20753

Christina Silman

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts



81.9 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 | Coolin |
|-------------------|-------------------|
| 46.4 | 35.5 |
| 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=MSmtOPcdF. 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

R2.5 to internal garage walls

Window and glazed door type and performance

Default* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|--------------|--------------------------------------|----------|-------|-------------------------------|------------------|--|
| WINDOW ID | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit | |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 | |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 | |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 | |

Custom* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|-----------------|-------------|----------|-------|-------------------------------|------------------|--|
| | Description | U-value* | 31100 | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 1800 | n/a | 45 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2400 | n/a | 45 | W | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 600 | 2400 | n/a | 00 | E | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1200 | 1200 | n/a | 45 | E | No |
| Laundry | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | Ν | No |
| Laundry | ALM-002-01 A | n/a | 1800 | 1200 | n/a | 00 | Ν | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1600 | n/a | 45 | E | No |
| Study/Entry | ALM-002-01 A | n/a | 2100 | 600 | n/a | 00 | Ν | No |
| Study/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Bedroom 2 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-001-01 A | n/a | 1000 | 800 | n/a | 10 | W | No |
| Bedroom 3 | ALM-001-01 A | n/a | 1000 | 800 | n/a | 10 | W | No |
| Bedroom 4 | ALM-002-01 A | n/a | 1000 | 1800 | n/a | 10 | W | No |
| Bedroom 4 | ALM-002-01 A | n/a | 600 | 1800 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 600 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 600 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1200 | 1200 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 600 | n/a | 10 | E | No |
| Bath | ALM-002-01 A | n/a | 1000 | 1500 | n/a | 45 | S | No |
| Ensuite | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | E | No |
| Guest/Media | ALM-002-01 A | n/a | 600 | 1800 | n/a | 45 | W | No |
| Guest/Media | ALM-001-01 A | n/a | 1800 | 800 | n/a | 60 | Ν | No |
| Guest/Media | ALM-001-01 A | n/a | 1800 | 800 | n/a | 60 | Ν | No |

Roof window type and performance

Default* roof windows

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

6.3 Star Rating as of 26 Oct 2021



Roof window schedule

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

No Data Available

Skylight type and performance

| Skylight ID | Skylight description | |
|-------------------|----------------------|--|
| No Data Available | | |

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation |
|----------|-------------|------------|-----------|-------------|
| Garage | 2040 | 4800 | 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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:6W2:4 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:7W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:7W2:2 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:7W2:3 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:8W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-9 | Fibro Cavity Panel Direct FixZ:8W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-10 | Fibro Cavity Panel Direct FixZ:10W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-11 | Fibro Cavity Panel Direct FixZ:13W2:4 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 3000 | S | 50 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 3590 | W | 3200 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 5495 | E | 50 | NO |

^{*} Refer to glossary.

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0006709760 NatHERS Certificate

6.3 Star Rating as of 26 Oct 2021



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|---------------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Laundry | EW-1 | 2550 | 2345 | N | 50 | NO |
| Laundry | EW-1 | 2550 | 2295 | E | 50 | NO |
| Study/Entry | EW-1 | 2550 | 3640 | N | 1600 | NO |
| Garage | EW-2 | 2550 | 5595 | W | 600 | NO |
| Garage | EW-2 | 2550 | 5595 | E | 600 | YES |
| - | EW-2 | 2550 | 5550 | S | 600 | NO |
| Garage Bedroom 2 | EW-3 | 2330 | 4750 | S | 600 | NO |
| Bedroom 2 | EW-3 | 2400 | 2145 | 8 W | 600 | YES |
| Bedroom 2 | EW-4 | 1500 | 4090 | N | 5850 | NO |
| Bedroom 2 | EW-3 | 2400 | 500 | E | 4400 | YES |
| Bedroom 3 | EW-3 | 900 | 3050 | S | 0 | YES |
| Bedroom 3 | EW-5 | 1500 | 3050 | S S | 600 | YES |
| | | | | | | |
| Bedroom 3 | EW-1 | 900 | 3000 | W | 0 | NO |
| Bedroom 3 | EW-6 | 1500 | 3000 | W | 600 | NO |
| Bedroom 3 | EW-1 | 900 | 2000 | N | 0 | YES |
| Bedroom 3 | EW-7 | 1500 | 2000 | N | 600 | YES |
| Bedroom 4 | EW-1 | 600 | 3145 | W | 0 | YES |
| Bedroom 4 | EW-8 | 1800 | 3145 | W | 600 | YES |
| Bedroom 4 | EW-1 | 600 | 3645 | N | 0 | NO |
| Bedroom 4 | EW-9 | 1800 | 3645 | N | 600 | NO |
| Bedroom 1 | EW-3 | 2400 | 2495 | N | 2050 | NO |
| Bedroom 1 | EW-1 | 2400 | 2350 | N | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 3345 | E | 600 | NO |
| WIR(Large) | EW-10 | 1500 | 2545 | Ν | 3950 | NO |
| WIR(Large) | EW-1 | 2400 | 1490 | E | 600 | NO |
| Bath | EW-3 | 2400 | 1890 | S | 600 | YES |
| Ensuite | EW-1 | 2400 | 2945 | E | 600 | NO |
| Ensuite | EW-1 | 2400 | 1895 | S | 600 | NO |
| Upper Stair | EW-1 | 600 | 1090 | Ν | 0 | NO |
| Upper Stair | EW-11 | 1800 | 1090 | Ν | 2050 | NO |
| Guest/Media | EW-1 | 2550 | 1145 | W | 3200 | YES |
| Guest/Media | EW-1 | 2550 | 1050 | S | 10950 | YES |
| Guest/Media | EW-1 | 2550 | 3050 | W | 50 | NO |
| Guest/Media | EW-1 | 2550 | 3595 | Ν | 50 | NO |

6.3 Star Rating as of 26 Oct 2021



Internal wall type

| Wall ID | Wall type | Area (m²) | Bulk insulation |
|---|-----------|-----------|----------------------------------|
| W-1 - Cavity wall, direct fix plasterboard, single gap | | 26.00 | Bulk Insulation, No Air Gap R2.5 |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | | 124.00 | No insulation |

Floor type

| Location | Construction | Area Sub-floor (m ²) ventilation | Added insulation (R-value) | Covering |
|-----------------------------|--------------------------------|---|----------------------------|-----------------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 34.50 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 2.50 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.20 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Study/Entry | Waffle pod slab 225 mm 100mm | 12.70 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.80 None | Waffle Pod 225mm | Bare |
| Bedroom 2/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 11.20 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 2/Garage | Timber Above Plasterboard 19mm | 2.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 1.20 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Guest/Media | Timber Above Plasterboard 19mm | 0.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3 | Suspended Timber Floor 19mm | 9.00 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Guest/Media | Timber Above Plasterboard 19mm | 10.90 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/PR | Timber Above Plasterboard 19mm | 1.50 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Laundry | Timber Above Plasterboard 19mm | 5.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Study/Entry | Timber Above Plasterboard 19mm | 5.00 | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR(Large)/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 3.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 6.00 | No Insulation | Ceramic Tiles 8mm |
| Bath/PR | Timber Above Plasterboard 19mm | 1.00 | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 5.40 | No Insulation | Ceramic Tiles 8mm |
| Upper Stair/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 4.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Stair/Study/Entry | Timber Above Plasterboard 19mm | 7.50 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Stair/Guest/Media | Timber Above Plasterboard 19mm | 1.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Guest/Media | Waffle pod slab 225 mm 100mm | 12.80 None | Waffle Pod 225mm | Ceramic Tiles 8mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|---|---------------------|
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Timber Above Plasterboard | No Insulation | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Study/Entry | Timber Above Plasterboard | No Insulation | No |

* Refer to glossary. Docomented on 26.03 3801 using BERS Pro v4.4.0.6 (3.21) for Proposed Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

0006709760 NatHERS Certificate

6.3 Star Rating as of 26 Oct 2021



| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-------------|-------------------------------|---|---------------------|
| Garage | Plasterboard | No insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom 2 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |
| WIR(Large) | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |
| Upper Stair | Plasterboard | Bulk Insulation R4 | No |
| Guest/Media | Timber Above Plasterboard | No Insulation | No |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |
| PR | 1 | Exhaust Fans | 150 | Sealed |
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation (R-value) | Solar absorptance | Roof shade |
|--------------|--|-------------------|------------|
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

| Annual energy load | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions. |
|---|--|
| | 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. |
| Coiling popotrations | features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes |
| Ceiling penetrations | fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. |
| Conditioned | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it |
| Conditioned | will include garages. |
| Custom windows | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. |
| Default windows | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. |
| Entrance door | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building. |
| Exposure category - exposed | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). |
| | terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered |
| Exposure category – open | sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors). |
| Exposure category – suburban | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas. |
| Exposure category – protected | terrain with numerous, closely spaced obstructions over 10 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 Nathers this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser. |
| Shading device | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves. |
| Shading features | includes neighbouring buildings, fences, and wing walls, but excludes eaves. |
| | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released |
| Solar heat gain coefficient (SHGC) | inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits. |
| Skylight (also know n as roof lights) | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level. |
| U-value | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. |
| Unconditioned | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. |
| Vortical chading factures | provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy |
| Vertical shading features | screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees). |

* Refer to glossary. Docomerates on the sentence of the senten

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006710453

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Superlot 2010 Spinifex Road , WERRINGTON , NSW , 2747

NCC Class

Lot/DP

Type

1A

1511/.

New Dwelling

Plans

Garage

Main Plan Prepared by

9900051 AN

Construction and environment

30.0

Assessed floor area (m²)* Conditioned* 138.0 Unconditioned* 46.0 Total 184.0

Exposure Type Suburban NatHERS climate zone

2

Accredited assessor

Name Business name Email Phone Accreditation No.

chris@silmanbuilding.com.au 0417487743 20753

Christina Silman

Silman Building Pty Ltd

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts

NATIONWIDE HOUSE ENERGY RATING SCHEME

The more stars the more energy efficient

87.6 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 |
|-------------------|-------------------|
| 46.0 | 41.6 |
| 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? n=ZiDURETuM



p=ZiDURFTuM. 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

R2.5 to internal walls of garage

Window and glazed door type and performance

Default* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|--------------|--------------------------------------|----------|-------|-------------------------------|------------------|--|
| WINDOW ID | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit | |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 | |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 | |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 | |

Custom* windows

| Window ID | Window Description | Maximum | SHGC* | Substitution tolerance ranges | | |
|-----------------|-----------------------|----------|-------|-------------------------------|------------------|--|
| | | U-value* | 5166 | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1800 | 2400 | n/a | 34 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1000 | 1600 | n/a | 45 | S | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2700 | n/a | 60 | E | No |
| PR | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | S | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1400 | n/a | 45 | S | No |
| Media/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | W | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 1800 | n/a | 30 | Ν | No |
| Bedroom | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 4 | ALM-001-01 A | n/a | 1200 | 800 | n/a | 10 | Ν | No |
| Bedroom 4 | ALM-002-01 A | n/a | 1200 | 1600 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1800 | 600 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 1800 | n/a | 45 | Ν | No |
| WIR | ALM-002-01 A | n/a | 600 | 1800 | n/a | 00 | E | No |
| Bath | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | E | No |
| Ensuite | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | Ν | No |
| Upper Sitting | ALM-002-01 A | n/a | 600 | 2400 | n/a | 45 | S | No |

Roof window type and performance

Default* roof windows

| Description vs Vindow Description | Мах | ralue* | SHGC* | | | SHGC upper limi |
|--|----------------|-------------------|--------------------------|--------------------------------|--|---|
| Vindow | | | SHGC* | | ution toler | ance ranges |
| Vindow | | | SHGC* | | ution toler | ance ranges |
| | | | SHGC* | | ution toler | ance ranges |
| Description | U-v | value* | 31160 | | | |
| | | U-value* | | SHGC lowe | r limit | SHGC upper limit |
| | | | | | | |
| w schedul | е | | | | | |
| low Windo no. | w Opening % | Height (mm) | Width (mm) | Orientation | Outdoo shade | r Indoor shade |
| | ow Windo | ow Window Opening | ow Window Opening Height | ow Window Opening Height Width | ow Window Opening Height Width Orientation | ow Window Opening Height Width Orientation Outdoo |

* Refer to glossary.

Documented on 20.07 9821 wing BERS Pro v4.4.0.6 (3.21) for Superlot 2010 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021



Skylight type and performance

Skylight ID

Skylight description

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation | |
|----------|-------------|------------|-----------|-------------|--|
| Garage | 2040 | 4800 | 90 | Ν | |

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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:7W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:8W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:8W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:9W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:10W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-9 | Fibro Cavity Panel Direct FixZ:10W2:2 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-10 | Fibro Cavity Panel Direct FixZ:12W2:1 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 6345 | S | 600 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 4495 | E | 50 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 2000 | S | 4200 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 3600 | E | 3600 | YES |
| PR | EW-1 | 2550 | 1090 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 1595 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 3545 | W | 600 | NO |
| Media/Entry | EW-1 | 2550 | 700 | W | 50 | YES |
| | | | | | | |

* Refer to glossary. Documented on 26.07 2021 using BERS Pro v4.4.0.6 (3.21) for Superlot 2010 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

5.9 Star Rating as of 26 Oct 2021



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|---------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Media/Entry | EW-1 | 2550 | 1850 | Ν | 1550 | YES |
| Media/Entry | EW-1 | 2550 | 1500 | W | 1900 | YES |
| Media/Entry | EW-1 | 2550 | 3050 | Ν | 50 | NO |
| Media/Entry | EW-1 | 2550 | 950 | E | 50 | YES |
| Media/Entry | EW-1 | 2550 | 600 | Ν | 50 | YES |
| Media/Entry | EW-1 | 2550 | 2245 | E | 50 | NO |
| Garage | EW-2 | 2550 | 5545 | W | 50 | NO |
| Garage | EW-2 | 2550 | 5545 | Ν | 50 | YES |
| Bedroom | EW-3 | 2400 | 3295 | S | 600 | NO |
| Bedroom | EW-1 | 2400 | 3645 | E | 600 | NO |
| Bedroom 3 | EW-3 | 2400 | 3245 | S | 600 | NO |
| Bedroom 3 | EW-1 | 900 | 3945 | W | 0 | NO |
| Bedroom 3 | EW-4 | 1500 | 3945 | W | 600 | NO |
| Bedroom 4 | EW-1 | 900 | 3245 | W | 0 | NO |
| Bedroom 4 | EW-5 | 1500 | 3245 | W | 600 | NO |
| Bedroom 4 | EW-1 | 900 | 3845 | Ν | 0 | NO |
| Bedroom 4 | EW-6 | 1500 | 3845 | Ν | 600 | NO |
| Bedroom 1 | EW-3 | 900 | 1850 | Ν | 0 | NO |
| Bedroom 1 | EW-7 | 1500 | 1850 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 1995 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 2200 | W | 600 | YES |
| WIR | EW-1 | 900 | 1045 | Ν | 0 | NO |
| WIR | EW-8 | 1500 | 1045 | Ν | 600 | NO |
| WIR | EW-1 | 900 | 950 | E | 0 | YES |
| WIR | EW-9 | 1500 | 950 | E | 1550 | YES |
| WIR | EW-1 | 2400 | 600 | Ν | 1550 | YES |
| WIR | EW-3 | 2400 | 2245 | E | 950 | NO |
| Bath | EW-1 | 2400 | 2540 | E | 600 | NO |
| Ensuite | EW-1 | 900 | 1690 | Ν | 0 | YES |
| Ensuite | EW-10 | 1500 | 1690 | Ν | 600 | YES |
| Upper Sitting | EW-3 | 2400 | 4490 | S | 600 | NO |

Internal wall type

| Wall ID | Wall type | Area (m²) | Bulk insulation |
|---|-----------|-----------|----------------------------------|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | | 117.00 | No insulation |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | | 28.00 | Bulk Insulation, No Air Gap R2.5 |



Floor type

| Location | Construction | Area Sub-floor (m ²) ventilation | Added insulation (R-value) | Covering |
|----------------------------------|-----------------------------------|---|----------------------------|-----------------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 48.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 1.90 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Media/Entry | Waffle pod slab 225 mm 100mm | 14.00 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.30 None | Waffle Pod 225mm | Bare |
| Bedroom /Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom | Suspended Timber Floor 19mm | 3.30 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Laundry | Timber Above Plasterboard 19mm | 2.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Garage | Timber Above Plasterboard 19mm | 7.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Garage | Timber Above Plasterboard 19mm | 12.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 0.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Media/Entry | Timber Above Plasterboard 19mm | 9.20 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1 | Suspended Timber Floor 19mm | 2.70 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR/Media/Entry | Timber Above Plasterboard 19mm | 4.50 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.00 | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Garage | Timber Above Plasterboard 19mm | 5.00 | No Insulation | Ceramic Tiles 8mm |
| Upper Sitting/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 16.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Sitting/Garage | Timber Above Plasterboard 19mm | 4.80 | No Insulation | Carpet+Rubber Underlay 18mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|--|---------------------|
| Kit/Meals/Loung | Plasterboard | Bulk Insulation R4 | No |
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Media/Entry | Timber Above Plasterboard | No Insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |

5.9 Star Rating as of 26 Oct 2021



| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|---------------|-------------------------------|--|---------------------|
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |
| WIR | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |
| Upper Sitting | Plasterboard | Bulk Insulation R4 | No |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available | | |
| | | |

Roof type

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



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

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

* Refer to glossary. Doc Comercites on no. 97 2021 wing BERS Pro v4.4.0.6 (3.21) for Superlot 2010 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006710461

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Superlot 2010 Spinifex Road , WERRINGTON , NSW , 2747

NCC Class

Lot/DP

Type

1A

New Dwelling

1512/.

Plans

Main Plan Prepared by

9900051 AN

Construction and environment

Assessed floor area (m²)*Conditioned*141.0Unconditioned*46.0Total187.0Garage30.0

Exposure Type Suburban NatHERS climate zone

Accredited assessor

Name Business name Email Phone Accreditation No.

chris@silmanbuilding.com.au 0417487743

Christina Silman

Silman Building Pty Ltd

Assessor Accrediting Organisation

ABSA

Declaration of interest

20753

t Declaration completed: no conflicts

92.2 MJ/m²

R

The more stars

the more energy efficient

NATIONWIDE

ENERGY RATING SCHEME

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

> For more information on your dwelling's rating see: www.nathers.gov.au

Thermal performance

| Heating | Cooling |
|-------------------|-------------------|
| 51.9 | 40.3 |
| 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? n=YAoeYEWGN

p=YAoeYFWGN. 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

R2.5 to internal walls of garage

Window and glazed door type and performance

Default* windows

| Window ID | Window | Maximum U-value* | SHGC* | Substitution tolerance ranges | |
|--------------|--------------------------------------|---------------------|-------|-------------------------------|------------------|
| | Description | | 3660 | SHGC lower limit | SHGC upper limit |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 |

Custom* windows

| Window ID | Window Description | Maximum | SHGC* | Substitution tolerance ranges | |
|-----------------|-----------------------|----------|-------|-------------------------------|------------------|
| | | U-value* | 3160 | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1800 | 2400 | n/a | 34 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1000 | 1600 | n/a | 45 | S | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2700 | n/a | 60 | E | No |
| PR | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | S | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1400 | n/a | 45 | S | No |
| Media/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 1500 | n/a | 45 | Ν | No |
| Bedroom | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 4 | ALM-001-01 A | n/a | 1500 | 2400 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1400 | 3000 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1400 | 1000 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1400 | 1000 | n/a | 00 | W | No |
| Bath | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | E | No |
| Ensuite | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | Ν | No |
| Upper Sitting | ALM-002-01 A | n/a | 600 | 2400 | n/a | 45 | S | No |

Roof window type and performance

Default* roof windows

| Window ID | Windov | v | Maxim | um | SUCC* | Substi | itution tole | erance ranges | |
|-------------|--------------|------------------------|--------------|----------------|---------------|------------------|-----------------|--------------------|--|
| | Descrip | ription U-value* SHGC* | | SHGC lowe | er limit | SHGC upper limit | | | |
| No Data Ava | ilable | | | | | | | | |
| Custom* roo | f windows | | | | | | | | |
| Window ID | Window | v | Maxim | um | SHGC* | Substi | itution tole | rance ranges | |
| | Descrip | otion | U-valı | U-value* SHGC* | | SHGC lowe | er limit | SHGC upper limit | |
| No Data Ava | ilable | | | | | | | | |
| Roof w | indow so | chedule | | | | | | | |
| Location | Window ID | Window no. | Opening % | Height (mm) | Width (mm) | Orientation | Outdoo shade | or Indoor shade | |

No Data Available



Skylight type and performance

Skylight ID

Skylight description

| No | Data | Available | |
|----|------|-----------|--|
| | | | |

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation | |
|----------|-------------|------------|-----------|-------------|--|
| Garage | 2040 | 4800 | 90 | Ν | |

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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:6W2:4 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:7W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:8W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:8W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:12W2:1 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 6345 | S | 600 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 4495 | E | 50 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 2000 | S | 4200 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 3600 | E | 3600 | YES |
| PR | EW-1 | 2550 | 1090 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 1595 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 3545 | W | 600 | NO |
| Media/Entry | EW-1 | 2550 | 700 | W | 400 | YES |
| Media/Entry | EW-1 | 2550 | 1850 | Ν | 2150 | YES |
| Media/Entry | EW-1 | 2550 | 1750 | W | 2250 | YES |

5.8 Star Rating as of 26 Oct 2021



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|---------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Media/Entry | EW-1 | 2550 | 3650 | Ν | 400 | NO |
| Media/Entry | EW-1 | 2550 | 3445 | E | 50 | NO |
| Garage | EW-2 | 2550 | 5545 | W | 50 | NO |
| Garage | EW-2 | 2550 | 5545 | Ν | 50 | YES |
| Bedroom | EW-3 | 2400 | 3295 | S | 600 | NO |
| Bedroom | EW-1 | 2400 | 1945 | E | 600 | NO |
| Bedroom | EW-3 | 900 | 1700 | E | 0 | NO |
| Bedroom | EW-4 | 1500 | 1700 | E | 600 | NO |
| Bedroom 3 | EW-3 | 2400 | 3245 | S | 600 | NO |
| Bedroom 3 | EW-5 | 1500 | 3945 | W | 50 | NO |
| Bedroom 4 | EW-6 | 1500 | 3245 | W | 50 | NO |
| Bedroom 4 | EW-1 | 300 | 3845 | Ν | 0 | NO |
| Bedroom 4 | EW-7 | 2100 | 3845 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 3945 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 2450 | W | 600 | YES |
| WIR | EW-1 | 2400 | 1545 | Ν | 600 | NO |
| WIR | EW-1 | 2400 | 3445 | E | 600 | NO |
| Bath | EW-1 | 2400 | 2540 | E | 600 | NO |
| Ensuite | EW-1 | 300 | 1690 | Ν | 0 | YES |
| Ensuite | EW-8 | 2100 | 1690 | Ν | 600 | YES |
| Upper Sitting | EW-3 | 2400 | 4490 | S | 600 | NO |

Internal wall type

| Wall ID | Wall type | Ar ea (m²) | Bulk insulation |
|---|-----------|-------------------|--|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | | 117.00 | No insulation |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | | 28.00 | Bulk Insulation, No Air Gap R2.5 |
| IW-3 - Brick, plaster on studs | | 6.00 | Bulk Insulation both sides of shaft liner R2.5 |

Floor type

| Construction | | | Covering |
|------------------------------|--|--|---|
| Waffle pod slab 225 mm 100mm | 48.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Waffle pod slab 225 mm 100mm | 1.90 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Waffle pod slab 225 mm 100mm | 5.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Waffle pod slab 225 mm 100mm | 15.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Waffle pod slab 225 mm 100mm | 30.30 None | Waffle Pod 225mm | Bare |
| | Waffle pod slab 225 mm 100mm Waffle pod slab 225 mm 100mm Waffle pod slab 225 mm 100mm Waffle pod slab 225 mm 100mm | Construction(m²) ventilationWaffle pod slab 225 mm 100mm48.40 None | Waffle pod slab 225 mm 100mm48.40 NoneWaffle Pod 225mmWaffle pod slab 225 mm 100mm1.90 NoneWaffle Pod 225mmWaffle pod slab 225 mm 100mm5.40 NoneWaffle Pod 225mmWaffle pod slab 225 mm 100mm5.40 NoneWaffle Pod 225mmWaffle pod slab 225 mm 100mm15.40 NoneWaffle Pod 225mmWaffle pod slab 225 mm 100mm30.30 NoneWaffle Pod 225mm |

* Refer to glossary.

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| Location | Construction | | Sub-floor ventilation | Added insulation (R-value) | Covering |
|----------------------------------|-----------------------------------|-------|-----------------------|----------------------------|-----------------------------|
| Bedroom /Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.40 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom | Suspended Timber Floor 19mm | 3.30 | Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.70 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Laundry | Timber Above Plasterboard 19mm | 2.60 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Garage | Timber Above Plasterboard 19mm | 7.30 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Garage | Timber Above Plasterboard 19mm | 12.60 |) | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 0.70 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Media/Entry | Timber Above Plasterboard 19mm | 10.10 |) | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1 | Suspended Timber Floor 19mm | 3.10 | Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR/Media/Entry | Timber Above Plasterboard 19mm | 5.10 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.00 | | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Garage | Timber Above Plasterboard 19mm | 5.00 | | No Insulation | Ceramic Tiles 8mm |
| Upper Sitting/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 16.10 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Sitting/Garage | Timber Above Plasterboard 19mm | 4.80 | | No Insulation | Carpet+Rubber Underlay 18mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|--|---------------------|
| Kit/Meals/Loung | Plasterboard | Bulk Insulation R4 | No |
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Media/Entry | Timber Above Plasterboard | No Insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |
| WIR | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |
| Upper Sitting | Plasterboard | Bulk Insulation R4 | No |



Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation (R-value) | Solar absorptance | Roof shade |
|--------------|--|-------------------|------------|
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

| Annual energy load | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions. |
|---|--|
| Assessed floor area | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents. |
| Ceiling penetrations | features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes |
| 0. | fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. |
| Conditioned | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages. |
| Custom windows | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. |
| Default windows | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. |
| Entrance door | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building. |
| Exposure category - exposed | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). |
| Exposure category - open | terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors). |
| Exposure category - suburban | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas. |
| Exposure category - protected | terrain with numerous, closely spaced obstructions over 10 m.e.g. city and industrial areas. |
| Horizontal shading feature | provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels. |
| National Construction Code | the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4 |
| (NOC) Class | buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au. |
| Opening percentage | the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. |
| | 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. |
| Solar heat gain coefficient (SHGC) | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits. |
| Skylight (also know n as roof lights) | for NathEPS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level. |
| Uvalue | 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. |
| onconditioned | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy |
| Vertical shading features | screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees). |

* Refer to glossary. Doc Comercites on no. 97 2021 wing BERS Pro v4.4.0.6 (3.21) for Superlot 2010 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006710479

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Lot/DP

Type

Superlot 2010 Spinifex Road . WERRINGTON, NSW, 2747

NCC Class'

1A

1513/.

New Dwelling

Plans

Main Plan Prepared by

9900051 AN

Construction and environr

30.0

Assessed floor area (m²)* 141.0 Conditioned* Unconditioned* 46.0 Total 187.0

Exposure Type Suburban NatHERS climate zone

Accredited assessor

Garage

Name **Business name** Email Phone Accreditation No.

chris@silmanbuilding.com.au 0417487743

Christina Silman

Assessor Accrediting Organisation

ABSA

Declaration of interest

Silman Building Pty Ltd

20753

Declaration completed: no conflicts

The more stars the more energy efficient IONWIDE ENERGY RATING SCHEME

87.3 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 |
|-------------------|-------------------|
| 54.0 | 33.2 |
| 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=znTGEDTpm. 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

R2.5 to internal walls of garage

Window and glazed door type and performance

Default* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|--------------|--------------------------------------|----------|-------|-------------------------------|------------------|--|
| WINDOW ID | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit | |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 | |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 | |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 | |

Custom* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|-----------------|-------------|----------|-------|-------------------------------|------------------|--|
| | Description | U-value* | 3000 | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2700 | n/a | 60 | W | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | W | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | W | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1800 | 2400 | n/a | 34 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1000 | 1600 | n/a | 45 | S | No |
| PR | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | S | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1400 | n/a | 45 | S | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 1500 | n/a | 60 | Ν | No |
| Media/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Bedroom | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 4 | ALM-002-01 A | n/a | 2100 | 1800 | n/a | 45 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 400 | 600 | n/a | 00 | E | No |
| Bedroom 1 | ALM-002-01 A | n/a | 400 | 1500 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1500 | 1000 | n/a | 10 | Ν | No |
| WIR | ALM-002-01 A | n/a | 1500 | 500 | n/a | 00 | Ν | No |
| Bath | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | W | No |
| Ensuite | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | Ν | No |
| Upper Sitting | ALM-002-01 A | n/a | 600 | 2400 | n/a | 45 | S | No |
| | | | | | | | | |

Roof window type and performance

Default* roof windows

| Mindow ID | Window Maximum | | Maximum | | Substitut | ion tolerar | nce ranges | |
|--------------|------------------|----------------------|---------|---------------|-----------|-----------------|------------|-----------------|
| Window ID | Descri | otion U-value* SHGC* | | SHGC lower li | imit S | HGC upper limit | | |
| No Data Avai | lable | | | | | | | |
| Custom* root | fwindows | | | | | | | |
| Window ID | Window | N | Maxim | um | SHGC* | Substitu | | nce ranges |
| | Descri | ption | U-val | ue* | 31160 | SHGC lower li | imit S | HGC upper limit |
| No Data Avai | lable | | | | | | | |
| Roof wi | i ndow so | chedule | | | | | | |
| Location | Window | Window | Opening | Height | Width | Orientation | Outdoor | Indoor |

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



Skylight type and performance

Skylight ID Skylight description

No Data Available

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation | |
|----------|-------------|------------|-----------|-------------|--|
| Garage | 2040 | 4800 | 90 | Ν | |

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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Brick Veneer | 0.50 | Medium | No insulation | No |
| EW-4 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:6W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:7W2:2 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:8W2:5 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:8W2:6 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-9 | Fibro Cavity Panel Direct FixZ:9W2:8 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-10 | Fibro Cavity Panel Direct FixZ:10W2:3 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-11 | Fibro Cavity Panel Direct FixZ:12W2:6 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 3600 | W | 3600 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 2000 | S | 4200 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 4495 | W | 50 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 6345 | S | 600 | NO |
| PR | EW-1 | 2550 | 1090 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 3545 | E | 600 | NO |
| Laundry | EW-1 | 2550 | 1595 | S | 600 | NO |
| Laanary | 2 | 2000 | 1000 | 0 | 000 | |

5.9 Star Rating as of 26 Oct 2021



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|--|------------|----------------|---------------|-------------|---|-----------------------------------|
| Media/Entry | EW-1 | 2550 | 3445 | W | 50 | NO |
| Media/Entry | EW-1 | 2550 | 3650 | Ν | 50 | NO |
| Media/Entry | EW-1 | 2550 | 1750 | E | 2000 | YES |
| Media/Entry | EW-1 | 2550 | 1850 | Ν | 1800 | YES |
| Media/Entry | EW-1 | 2550 | 700 | E | 5650 | YES |
| Garage | EW-2 | 2550 | 5545 | Ν | 1300 | YES |
| Garage | EW-3 | 2550 | 5545 | E | 75 | NO |
| Bedroom | EW-4 | 900 | 1700 | W | 0 | NO |
| Bedroom | EW-5 | 1500 | 1700 | W | 600 | NO |
| Bedroom | EW-1 | 2400 | 1945 | W | 600 | NO |
| Bedroom | EW-4 | 2400 | 3295 | S | 600 | NO |
| Bedroom 3 | EW-6 | 1500 | 3945 | E | 50 | NO |
| Bedroom 3 | EW-4 | 2400 | 3245 | S | 600 | NO |
| Bedroom 4 | EW-1 | 300 | 3845 | Ν | 0 | NO |
| Bedroom 4 | EW-7 | 2100 | 3845 | Ν | 1800 | NO |
| Bedroom 4 | EW-8 | 1500 | 3245 | E | 50 | NO |
| Bedroom 1 | EW-1 | 2400 | 2450 | E | 5600 | YES |
| Bedroom 1 | EW-1 | 300 | 3945 | Ν | 0 | NO |
| Bedroom 1 | EW-9 | 2100 | 3945 | Ν | 600 | NO |
| WIR | EW-1 | 2400 | 2295 | W | 600 | NO |
| WIR | EW-4 | 2400 | 1150 | W | 600 | NO |
| WIR | EW-1 | 300 | 1545 | Ν | 0 | NO |
| WIR | EW-10 | 2100 | 1545 | Ν | 600 | NO |
| Bath | EW-1 | 2400 | 2540 | W | 600 | NO |
| Ensuite | EW-1 | 300 | 1690 | Ν | 0 | YES |
| Ensuite | EW-11 | 2100 | 1690 | Ν | 1800 | YES |
| Upper Sitting | EW-4 | 2400 | 4490 | S | 600 | NO |
| the second s | | | | | | |

Internal wall type

| Wall ID | Wall type | Area (m²) | Bulk insulation |
|---|-----------|-----------|--|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | | 117.00 | No insulation |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | | 28.00 | Bulk Insulation, No Air Gap R2.5 |
| IW-3 - Brick, plaster on studs | | 6.00 | Bulk Insulation both sides of shaft liner R2.5 |

Floor type

| Location Construction | Area Sub-floor Added insulation (m ²) ventilation (R-value) |
|-----------------------|--|
|-----------------------|--|

* Refer to glossary.

Documented on 10: 97 99 01 wing BERS Pro v4.4.0.6 (3.21) for Superlot 2010 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

5.9 Star Rating as of 26 Oct 2021



| Location | Construction | | Sub-floor ventilation | Added insulation (R-value) | Covering |
|----------------------------------|-----------------------------------|-------|-----------------------|----------------------------|-----------------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 48.40 | None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 1.90 | None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.40 | None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Media/Entry | Waffle pod slab 225 mm 100mm | 15.40 | None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.30 | None | Waffle Pod 225mm | Bare |
| Bedroom /Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.40 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom | Suspended Timber Floor 19mm | | Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.60 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Laundry | Timber Above Plasterboard 19mm | 2.60 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Garage | Timber Above Plasterboard 19mm | 7.30 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Garage | Timber Above Plasterboard 19mm | 12.60 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 0.70 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Media/Entry | Timber Above Plasterboard 19mm | 10.10 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1 | Suspended Timber Floor 19mm | 3.10 | Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR/Media/Entry | Timber Above Plasterboard 19mm | 5.10 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.00 | | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Garage | Timber Above Plasterboard 19mm | 5.00 | | No Insulation | Ceramic Tiles 8mm |
| Upper Sitting/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 16.10 | | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Sitting/Garage | Timber Above Plasterboard 19mm | 4.80 | | No Insulation | Carpet+Rubber Underlay 18mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|---|---------------------|
| Kit/Meals/Loung | Plasterboard | Bulk Insulation R4 | No |
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Media/Entry | Timber Above Plasterboard | No Insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |

* Refer to glossary. Documented on 26.097 3821 using BERS Pro v4.4.0.6 (3.21) for Superlot 2010 Spinifex Road , WERRINGTON , NSW , 2747 Version: 1, Version Date: 04/11/2021



| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|---------------|-------------------------------|---|---------------------|
| WIR | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |
| Upper Sitting | Plasterboard | Bulk Insulation R4 | No |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation (R-value) | Solar absorptance | Roof shade |
|--------------|--|-------------------|------------|
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

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

* Refer to glossary. Doc Comercites on no. 97 2021 wing BERS Pro v4.4.0.6 (3.21) for Superlot 2010 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006710487

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Lot/DP

Type

Superlot 2010 Spinifex Road , WERRINGTON , NSW , 2747

NCC Class

1A

New Dwelling

1514/.

Plans

Garage

Main Plan Prepared by

9900051 AN

Construction and environment

31.0

Assessed floor area (m²)*Conditioned*130.0Unconditioned*43.0Total173.0

Exposure Type Suburban NatHERS climate zone

Accredited assessor

Name Business name Email Phone Accreditation No.

chris@silmanbuilding.com.au 0417487743 20753

Christina Silman

Silman Building Pty Ltd

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts

ENERGY RATING SCHEME
81.6 MJ/m²

The more stars

the more energy efficient

IONWIDE

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 |
|-------------------|-------------------|
| 45.8 | 35.7 |
| 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=IGRxQmhbH. 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

R2.5 to internal garage walls

Window and glazed door type and performance

Default* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|--------------|--------------------------------------|----------|-------|-------------------------------|------------------|--|
| WINDOW ID | Description | U-value* | 01100 | SHGC lower limit | SHGC upper limit | |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 | |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 | |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 | |

Custom* windows

| Window ID | Window | Window Maximum s | | Substitution to | lerance ranges |
|-----------------|----------------------------|------------------|------------------|------------------|----------------|
| | Description U-value* SHGC* | 3160 | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 1800 | n/a | 45 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2400 | n/a | 45 | W | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 600 | 2400 | n/a | 00 | E | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1200 | 1200 | n/a | 45 | E | No |
| Laundry | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | Ν | No |
| Laundry | ALM-002-01 A | n/a | 1800 | 1200 | n/a | 00 | Ν | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1600 | n/a | 45 | E | No |
| Study/Entry | ALM-002-01 A | n/a | 2100 | 600 | n/a | 00 | Ν | No |
| Study/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Bedroom 2 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-001-01 A | n/a | 1000 | 800 | n/a | 10 | W | No |
| Bedroom 3 | ALM-001-01 A | n/a | 1000 | 800 | n/a | 10 | W | No |
| Bedroom 4 | ALM-002-01 A | n/a | 1000 | 1800 | n/a | 10 | W | No |
| Bedroom 4 | ALM-002-01 A | n/a | 600 | 1800 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 600 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 600 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1200 | 1200 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 600 | n/a | 10 | E | No |
| Bath | ALM-002-01 A | n/a | 1000 | 1500 | n/a | 45 | S | No |
| Ensuite | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | E | No |
| Guest/Media | ALM-002-01 A | n/a | 600 | 1800 | n/a | 45 | W | No |
| Guest/Media | ALM-001-01 A | n/a | 1800 | 800 | n/a | 60 | Ν | No |
| Guest/Media | ALM-001-01 A | n/a | 1800 | 800 | n/a | 60 | Ν | No |

Roof window type and performance

Default* roof windows

| Window ID | w ID Description H value* SHGC* | SHCC* | Substitution to | lerance ranges | |
|-----------------|---------------------------------|----------|-----------------|------------------|------------------|
| | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit |
| No Data Availat | ble | | | | |
| Custom* roof w | vindows | | | | |
| Window ID | Window | Maximum | SHGC* | Substitution to | lerance ranges |
| | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit |
| No Data Availat | ble | | | | |

6.3 Star Rating as of 26 Oct 2021



Roof window schedule

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

No Data Available

Skylight type and performance

| Skylight ID | Skylight description | |
|-------------------|----------------------|--|
| No Data Available | | |

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation |
|----------|-------------|------------|-----------|-------------|
| Garage | 2040 | 4800 | 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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:6W2:4 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:7W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:7W2:2 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:7W2:3 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:8W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-9 | Fibro Cavity Panel Direct FixZ:8W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-10 | Fibro Cavity Panel Direct FixZ:10W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-11 | Fibro Cavity Panel Direct FixZ:13W2:4 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 3000 | S | 50 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 3590 | W | 3200 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 5495 | E | 50 | NO |

^{*} Refer to glossary.

Documented on 20. 07 9801 wing BERS Pro v4.4.0.6 (3.21) for Superlot 2010 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

6.3 Star Rating as of 26 Oct 2021



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|-------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Laundry | EW-1 | 2550 | 2345 | N | 50 | NO |
| Laundry | EW-1 | 2550 | 2295 | E | 50 | NO |
| Study/Entry | EW-1 | 2550 | 3640 | N | 1600 | NO |
| Garage | EW-2 | 2550 | 5595 | W | 600 | NO |
| Garage | EW-2 | 2550 | 5595 | E | 600 | YES |
| Garage | EW-2 | 2550 | 5550 | S | 600 | NO |
| Bedroom 2 | EW-3 | 2400 | 4750 | S | 600 | NO |
| Bedroom 2 | EW-3 | 2400 | 2145 | W | 600 | YES |
| Bedroom 2 | EW-4 | 1500 | 4090 | N | 5850 | NO |
| Bedroom 2 | EW-3 | 2400 | 500 | E | 4400 | YES |
| Bedroom 3 | EW-1 | 900 | 3050 | S | 0 | YES |
| Bedroom 3 | EW-5 | 1500 | 3050 | S | 600 | YES |
| Bedroom 3 | EW-1 | 900 | 3000 | W | 0 | NO |
| Bedroom 3 | EW-6 | 1500 | 3000 | W | 600 | NO |
| Bedroom 3 | EW-1 | 900 | 2000 | N | 0 | YES |
| Bedroom 3 | EW-7 | 1500 | 2000 | N | 600 | YES |
| Bedroom 4 | EW-1 | 600 | 3145 | W | 0 | YES |
| Bedroom 4 | EW-8 | 1800 | 3145 | W | 600 | YES |
| Bedroom 4 | EW-1 | 600 | 3645 | Ν | 0 | NO |
| Bedroom 4 | EW-9 | 1800 | 3645 | N | 600 | NO |
| Bedroom 1 | EW-3 | 2400 | 2495 | N | 2050 | NO |
| Bedroom 1 | EW-1 | 2400 | 2350 | N | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 3345 | E | 600 | NO |
| WIR(Large) | EW-10 | 1500 | 2545 | N | 3950 | NO |
| WIR(Large) | EW-1 | 2400 | 1490 | E | 600 | NO |
| Bath | EW-3 | 2400 | 1890 | S | 600 | YES |
| Ensuite | EW-1 | 2400 | 2945 | E | 600 | NO |
| Ensuite | EW-1 | 2400 | 1895 | S | 600 | NO |
| Upper Stair | EW-1 | 600 | 1090 | Ν | 0 | NO |
| Upper Stair | EW-11 | 1800 | 1090 | Ν | 2050 | NO |
| Guest/Media | EW-1 | 2550 | 1145 | W | 3200 | YES |
| Guest/Media | EW-1 | 2550 | 1050 | S | 10950 | YES |
| Guest/Media | EW-1 | 2550 | 3050 | W | 50 | NO |
| Guest/Media | EW-1 | 2550 | 3595 | Ν | 50 | NO |

6.3 Star Rating as of 26 Oct 2021



Internal wall type

| Wall ID | Wall type | Area (m²) | Bulk insulation |
|---|-----------|-----------|----------------------------------|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | | 26.00 | Bulk Insulation, No Air Gap R2.5 |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | | 124.00 | No insulation |

Floor type

| Location | Construction | Area Sub-floor (m ²) ventilation | Added insulation (R-value) | Covering |
|-----------------------------|--------------------------------|---|----------------------------|-----------------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 34.50 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 2.50 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.20 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Study/Entry | Waffle pod slab 225 mm 100mm | 12.70 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.80 None | Waffle Pod 225mm | Bare |
| Bedroom 2/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 11.20 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 2/Garage | Timber Above Plasterboard 19mm | 2.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 1.20 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Guest/Media | Timber Above Plasterboard 19mm | 0.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3 | Suspended Timber Floor 19mm | 9.00 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Guest/Media | Timber Above Plasterboard 19mm | 10.90 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/PR | Timber Above Plasterboard 19mm | 1.50 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Laundry | Timber Above Plasterboard 19mm | 5.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Study/Entry | Timber Above Plasterboard 19mm | 5.00 | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR(Large)/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 3.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 6.00 | No Insulation | Ceramic Tiles 8mm |
| Bath/PR | Timber Above Plasterboard 19mm | 1.00 | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 5.40 | No Insulation | Ceramic Tiles 8mm |
| Upper Stair/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 4.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Stair/Study/Entry | Timber Above Plasterboard 19mm | 7.50 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Stair/Guest/Media | Timber Above Plasterboard 19mm | 1.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Guest/Media | Waffle pod slab 225 mm 100mm | 12.80 None | Waffle Pod 225mm | Ceramic Tiles 8mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|---|---------------------|
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Timber Above Plasterboard | No Insulation | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Study/Entry | Timber Above Plasterboard | No Insulation | No |

* Refer to glossary. Doctimented en 16: 97 3921 using BERS Pro v4.4.0.6 (3.21) for Superlot 2010 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

6.3 Star Rating as of 26 Oct 2021



| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-------------|-------------------------------|--|---------------------|
| Garage | Plasterboard | No insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom 2 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |
| WIR(Large) | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |
| Upper Stair | Plasterboard | Bulk Insulation R4 | No |
| Guest/Media | Timber Above Plasterboard | No Insulation | No |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |
| PR | 1 | Exhaust Fans | 150 | Sealed |
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation (R-value) | Solar absorptance | Roof shade |
|--------------|--|-------------------|------------|
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

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

* Refer to glossary. Doc Comercites on no. 97 2021 wing BERS Pro v4.4.0.6 (3.21) for Superlot 2010 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006710727

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747

Lot/DP NCC Class'

Type

1A

New Dwelling

1521/.

Plans

Main Plan Prepared by

9900051 AN

Construction and environr

Assessed floor area (m²)* Conditionod* 138.0

| Conditioned | 138.0 |
|----------------|-------|
| Unconditioned* | 46.0 |
| Total | 184.0 |
| Garage | 30.0 |

Exposure Type

Suburban NatHERS climate zone

Accredited assessor

Name **Business name** Email Phone Accreditation No.

chris@silmanbuilding.com.au 0417487743 20753

Christina Silman

Silman Building Pty Ltd

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts

The more stars the more energy efficient IONWIDE ENERGY RATING SCHEME

87.7 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 |
|-------------------|-------------------|
| 46.0 | 41.7 |
| 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=pANyoBvXN. 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

R2.5 to internal walls of garage

Window and glazed door type and performance

Default* windows

| Window ID | Window Description | Maximum U-value* | SHGC* | Substitution tolerance ranges | |
|--------------|--------------------------------------|---------------------|-------|-------------------------------|------------------|
| | | | 3660 | SHGC lower limit | SHGC upper limit |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 |

Custom* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|-----------------|-------------|----------|-------|-------------------------------|------------------|--|
| | Description | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1800 | 2400 | n/a | 34 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1000 | 1600 | n/a | 45 | S | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2700 | n/a | 60 | E | No |
| PR | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | S | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1400 | n/a | 45 | S | No |
| Media/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | W | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 1800 | n/a | 30 | Ν | No |
| Bedroom | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 4 | ALM-001-01 A | n/a | 1200 | 800 | n/a | 10 | Ν | No |
| Bedroom 4 | ALM-002-01 A | n/a | 1200 | 1600 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1800 | 600 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 1800 | n/a | 45 | Ν | No |
| WIR | ALM-002-01 A | n/a | 600 | 1800 | n/a | 00 | E | No |
| Bath | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | E | No |
| Ensuite | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | Ν | No |
| Upper Sitting | ALM-002-01 A | n/a | 600 | 2400 | n/a | 45 | S | No |

Roof window type and performance

Default* roof windows

| Mfra day v ID | Windov | v | Maximum | | SHGC* | Subst | Substitution tolerance ranges | | | |
|---------------|--------------|---------------|--------------|----------------|---------------|-------------|-------------------------------|------------------------|--|--|
| Window ID | Descrip | Description | | U-value* | | SHGC low | er limit | SHGC upper limit | | |
| No Data Ava | ilable | | | | | | | | | |
| Custom* roo | of windows | | | | | | | | | |
| Window ID | Window | v | Maxim | um | SHGC* | Substi | itution tole | rance ranges | | |
| | Descrip | otion | U-value* | | SHGC | SHGC low | er limit | limit SHGC upper limit | | |
| No Data Ava | ilable | | | | | | | | | |
| Roof w | indow so | chedule | | | | | | | | |
| Location | Window ID | Window no. | Opening % | Height (mm) | Width (mm) | Orientation | Outdoo shade | or Indoor shade | | |
| No Data Ava | ilable | | | | | | | | | |

* Refer to glossary.

Documented en 20. 97 9821 wing BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021



Skylight type and performance

Skylight ID

Skylight description

| ; |
|---|
| ; |

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation | |
|----------|-------------|------------|-----------|-------------|--|
| Garage | 2040 | 4800 | 90 | Ν | |

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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:7W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:8W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:8W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:9W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:10W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-9 | Fibro Cavity Panel Direct FixZ:10W2:2 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-10 | Fibro Cavity Panel Direct FixZ:12W2:1 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 6345 | S | 600 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 4495 | E | 50 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 2000 | S | 4200 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 3600 | E | 3600 | YES |
| PR | EW-1 | 2550 | 1090 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 1595 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 3545 | W | 600 | NO |
| Media/Entry | EW-1 | 2550 | 700 | W | 50 | YES |
| | | | | | | |

* Refer to glossary. Documented on 20.07 2021 using BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

5.9 Star Rating as of 26 Oct 2021



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|---------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Media/Entry | EW-1 | 2550 | 1850 | Ν | 1550 | YES |
| Media/Entry | EW-1 | 2550 | 1500 | W | 1900 | YES |
| Media/Entry | EW-1 | 2550 | 3050 | Ν | 50 | NO |
| Media/Entry | EW-1 | 2550 | 950 | E | 50 | YES |
| Media/Entry | EW-1 | 2550 | 600 | Ν | 50 | YES |
| Media/Entry | EW-1 | 2550 | 2245 | E | 50 | NO |
| Garage | EW-2 | 2550 | 5545 | W | 50 | NO |
| Garage | EW-2 | 2550 | 5545 | Ν | 50 | YES |
| Bedroom | EW-3 | 2400 | 3295 | S | 600 | NO |
| Bedroom | EW-1 | 2400 | 3645 | E | 600 | NO |
| Bedroom 3 | EW-3 | 2400 | 3245 | S | 600 | NO |
| Bedroom 3 | EW-1 | 900 | 3945 | W | 0 | NO |
| Bedroom 3 | EW-4 | 1500 | 3945 | W | 600 | NO |
| Bedroom 4 | EW-1 | 900 | 3245 | W | 0 | NO |
| Bedroom 4 | EW-5 | 1500 | 3245 | W | 600 | NO |
| Bedroom 4 | EW-1 | 900 | 3845 | Ν | 0 | NO |
| Bedroom 4 | EW-6 | 1500 | 3845 | Ν | 600 | NO |
| Bedroom 1 | EW-3 | 900 | 1850 | Ν | 0 | NO |
| Bedroom 1 | EW-7 | 1500 | 1850 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 1995 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 2200 | W | 600 | YES |
| WIR | EW-1 | 900 | 1045 | Ν | 0 | NO |
| WIR | EW-8 | 1500 | 1045 | Ν | 600 | NO |
| WIR | EW-1 | 900 | 950 | E | 0 | YES |
| WIR | EW-9 | 1500 | 950 | E | 1550 | YES |
| WIR | EW-1 | 2400 | 600 | Ν | 1550 | YES |
| WIR | EW-3 | 2400 | 2245 | E | 950 | NO |
| Bath | EW-1 | 2400 | 2540 | E | 600 | NO |
| Ensuite | EW-1 | 900 | 1690 | Ν | 0 | YES |
| Ensuite | EW-10 | 1500 | 1690 | Ν | 600 | YES |
| Upper Sitting | EW-3 | 2400 | 4490 | S | 600 | NO |

Internal wall type

| Wall ID | Wall type | Area (m²) | Bulk insulation |
|---|-----------|-----------|----------------------------------|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | | 117.00 | No insulation |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | | 28.00 | Bulk Insulation, No Air Gap R2.5 |



Floor type

| Location | Construction | Area Sub-floor (m ²) ventilation | Added insulation (R-value) | Covering |
|----------------------------------|-----------------------------------|---|----------------------------|-----------------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 48.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 1.90 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Media/Entry | Waffle pod slab 225 mm 100mm | 14.00 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.30 None | Waffle Pod 225mm | Bare |
| Bedroom /Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom | Suspended Timber Floor 19mm | 3.30 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Laundry | Timber Above Plasterboard 19mm | 2.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Garage | Timber Above Plasterboard 19mm | 7.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Garage | Timber Above Plasterboard 19mm | 12.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 0.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Media/Entry | Timber Above Plasterboard 19mm | 9.20 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1 | Suspended Timber Floor 19mm | 2.70 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR/Media/Entry | Timber Above Plasterboard 19mm | 4.50 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.00 | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Garage | Timber Above Plasterboard 19mm | 5.00 | No Insulation | Ceramic Tiles 8mm |
| Upper Sitting/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 16.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Sitting/Garage | Timber Above Plasterboard 19mm | 4.80 | No Insulation | Carpet+Rubber Underlay 18mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|--|---------------------|
| Kit/Meals/Loung | Plasterboard | Bulk Insulation R4 | No |
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Media/Entry | Timber Above Plasterboard | No Insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |

5.9 Star Rating as of 26 Oct 2021



| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|---------------|-------------------------------|--|---------------------|
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |
| WIR | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |
| Upper Sitting | Plasterboard | Bulk Insulation R4 | No |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available | | |
| | | |

Roof type

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



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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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.

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

* Refer to glossary. Doc GMPERTES on 16: 97-9931 using BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006710735

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Superlot 2230 Spinifex Road , WERRINGTON , NSW , 2747

NCC Class

Lot/DP

Type

1A

1522/.

New Dwelling

Plans

Main Plan Prepared by

9900051 AN

Construction and environment

46.0 187.0 30.0

Assessed floor area (m²)* Conditioned* 141.0

| Unconditioned* | |
|----------------|--|
| Total | |
| Garage | |

Exposure Type Suburban

NatHERS climate zone

2

CCREDITR TOSERSON

Accredited assessor

Name Business name Email Phone Accreditation No.

chris@silmanbuilding.com.au 0417487743 20753

Christina Silman

Silman Building Pty Ltd

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts



ENERGY RATING SCHEME

89.5 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 |
|-------------------|-------------------|
| 48.3 | 41.2 |
| 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=hzORBbZrC. 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

R2.5 to internal walls of garage

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 | |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 | |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 | |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 | |

Custom* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | | |
|-----------------|-------------|----------|-------|-------------------------------|------------------|--|--|
| | Description | U-value* | 3160 | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1800 | 2400 | n/a | 34 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1000 | 1600 | n/a | 45 | S | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | E | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2700 | n/a | 60 | E | No |
| PR | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | S | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1400 | n/a | 45 | S | No |
| Media/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 1500 | n/a | 45 | Ν | No |
| Bedroom | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 4 | ALM-001-01 A | n/a | 1500 | 2400 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1400 | 3000 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1400 | 1000 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1400 | 1000 | n/a | 00 | W | No |
| Bath | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | E | No |
| Ensuite | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | Ν | No |
| Upper Sitting | ALM-002-01 A | n/a | 600 | 2400 | n/a | 45 | S | No |

Roof window type and performance

Default* roof windows

| Window ID | Window | Window Description | | um | SHGC* | Substitution tolerance ranges | | | |
|-------------|--------------|-----------------------|--------------|----------------|---------------|-------------------------------|-----------------|--------------------|--|
| | Descrip | | | U-value* | | SHGC lowe | er limit | SHGC upper limit | |
| No Data Ava | ilable | | | | | | | | |
| Custom* roo | f windows | | | | | | | | |
| Window ID | Window | v | Maxim | um | SHGC* | Substi | itution tole | rance ranges | |
| | Descrip | Description | | U-value* | | SHGC lowe | er limit | SHGC upper limit | |
| No Data Ava | ilable | | | | | | | | |
| Roof w | indow so | chedule | | | | | | | |
| Location | Window ID | Window no. | Opening % | Height (mm) | Width (mm) | Orientation | Outdoo shade | or Indoor shade | |

No Data Available



Skylight type and performance

Skylight ID Skylight description

No Data Available

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation | |
|----------|-------------|------------|-----------|-------------|--|
| Garage | 2040 | 4800 | 90 | Ν | |

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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:6W2:4 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:7W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:8W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:8W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:12W2:1 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 6345 | S | 600 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 4495 | E | 50 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 2000 | S | 4200 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 3600 | E | 3600 | YES |
| PR | EW-1 | 2550 | 1090 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 1595 | S | 600 | NO |
| Media/Entry | EW-1 | 2550 | 700 | W | 400 | YES |
| Media/Entry | EW-1 | 2550 | 1850 | Ν | 2150 | YES |
| Media/Entry | EW-1 | 2550 | 1750 | W | 2250 | YES |
| Media/Entry | EW-1 | 2550 | 3650 | Ν | 400 | NO |

| ł | 5.9 | Star | Rating | as | of 26 | Oct | 2021 |
|---|-----|------|--------|----|-------|-----|------|
| | 0.0 | oun | ruung | au | 01 20 | 000 | 2021 |



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|---------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Media/Entry | EW-1 | 2550 | 3445 | E | 50 | NO |
| Garage | EW-2 | 2550 | 5545 | Ν | 50 | YES |
| Bedroom | EW-3 | 2400 | 3295 | S | 600 | NO |
| Bedroom | EW-1 | 2400 | 1945 | E | 600 | NO |
| Bedroom | EW-3 | 900 | 1700 | E | 0 | NO |
| Bedroom | EW-4 | 1500 | 1700 | E | 600 | NO |
| Bedroom 3 | EW-3 | 2400 | 3245 | S | 600 | NO |
| Bedroom 3 | EW-5 | 1500 | 3945 | W | 50 | NO |
| Bedroom 4 | EW-6 | 1500 | 3245 | W | 50 | NO |
| Bedroom 4 | EW-1 | 300 | 3845 | Ν | 0 | NO |
| Bedroom 4 | EW-7 | 2100 | 3845 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 3945 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 2450 | W | 600 | YES |
| WIR | EW-1 | 2400 | 1545 | Ν | 600 | NO |
| WIR | EW-1 | 2400 | 3445 | E | 600 | NO |
| Bath | EW-1 | 2400 | 2540 | E | 600 | NO |
| Ensuite | EW-1 | 300 | 1690 | Ν | 0 | YES |
| Ensuite | EW-8 | 2100 | 1690 | Ν | 600 | YES |
| Upper Sitting | EW-3 | 2400 | 4490 | S | 600 | NO |

Internal wall type

| Wall ID | Wall type Are | ea (m²) | Bulk insulation |
|---|---------------|---------|--|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | 1 | 17.00 | No insulation |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | 2 | 28.00 | Bulk Insulation, No Air Gap R2.5 |
| IW-3 - Shaft liner party wall with plaster | 3 | 30.00 | Bulk Insulation both sides of shaft liner R2 |

Floor type

| Location | Construction | Area Sub-floor (m ²) ventilation | Added insulation (R-value) | Covering |
|--------------------------|-----------------------------------|---|----------------------------|-----------------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 48.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 1.90 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Media/Entry | Waffle pod slab 225 mm 100mm | 15.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.30 None | Waffle Pod 225mm | Bare |
| Bedroom /Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom | Suspended Timber Floor 19mm | 3.30 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |

* Refer to glossary. Documented on 26.097 9801 using BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road , WERRINGTON , NSW , 2747 Version: 1, Version Date: 04/11/2021

5.9 Star Rating as of 26 Oct 2021



| Location | Construction | Area Sub-floor (m) ventilation | Added insulation (R-value) | Covering |
|----------------------------------|-----------------------------------|-----------------------------------|----------------------------|-----------------------------|
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Laundry | Timber Above Plasterboard 19mm | 2.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Garage | Timber Above Plasterboard 19mm | 7.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Garage | Timber Above Plasterboard 19mm | 12.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 0.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Media/Entry | Timber Above Plasterboard 19mm | 10.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1 | Suspended Timber Floor 19mm | 3.10 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR/Media/Entry | Timber Above Plasterboard 19mm | 5.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.00 | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Garage | Timber Above Plasterboard 19mm | 5.00 | No Insulation | Ceramic Tiles 8mm |
| Upper Sitting/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 16.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Sitting/Garage | Timber Above Plasterboard 19mm | 4.80 | No Insulation | Carpet+Rubber Underlay 18mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|--|---------------------|
| Kit/Meals/Loung | Plasterboard | Bulk Insulation R4 | No |
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Media/Entry | Timber Above Plasterboard | No Insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |
| WIR | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |
| Upper Sitting | Plasterboard | Bulk Insulation R4 | No |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |

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| Location | Quantity | Туре | Diameter (mm) | Sealed/unsealed |
|----------|----------|--------------|---------------|-----------------|
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

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

| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |
|------------|--|------|------|



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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. | | |
|--|---|--|--|
| Assessed floor area | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the | | |
| Assessed hoor area | design documents. | | |
| Ceiling penetrations | features that require a penetration to the ceiling, including dow nlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes | | |
| Celling perietrations | fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts. | | |
| Conditioned | a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it | | |
| Conditioned | will include garages. | | |
| Custom windows | windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. | | |
| Default windows | windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. | | |
| Entrance door | these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor | | |
| | in a Class 2 building. | | |
| Exposure category - exposed | terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). | | |
| | 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. | | |
| Llavina stal a badiu s fa stura | provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper | | |
| Horizontal shading feature | levels. | | |
| National Construction Code | the NOC groups buildings by their function and use, and assigns a classification code. NatHERS software models NOC Class 1, 2 or 4 | | |
| (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 | | |
| Rool window | generally does not have a diffuser. | | |
| Shading device | a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves. | | |
| Shading features | includes neighbouring buildings, fences, and wing walls, but excludes eaves. | | |
| Online has at main and filling at (OLIOO) | the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released | | |
| Solar heat gain coefficient (SHGC) | inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits. | | |
| Skylight (also known as roof lights) | for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level. | | |
| U-value | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. | | |
| Unconditioned | a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. | | |
| | 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). | | |
| | | | |

* Refer to glossary. Doc GMPERTES on 16: 97-9931 using BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006710743

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747

NCC Class'

Lot/DP

Type

1A

New Dwelling

1523/.

Plans

Main Plan Prepared by

9900051 AN

Construction and environr

Assessed floor area (m²)*

| Conditioned* | 141.0 |
|----------------|-------|
| Unconditioned* | 46.0 |
| Total | 187.0 |
| Garage | 30.0 |

Exposure Type

Suburban NatHERS climate zone

Accredited assessor

Name **Business name** Email Phone Accreditation No.

chris@silmanbuilding.com.au 0417487743 20753

Christina Silman

Silman Building Pty Ltd

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts

The more stars the more energy efficient IONWIDE ENERGY RATING SCHEME

84.4 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 |
|-------------------|-------------------|
| 50.6 | 33.8 |
| 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=VSPYZfPXS. 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

R2.5 to internal walls of garage

Window and glazed door type and performance

Default* windows

| Window ID | Window Description | Maximum U-value* | SHGC* | Substitution tolerance ranges | |
|--------------|--------------------------------------|---------------------|-------|-------------------------------|------------------|
| | | | 3660 | SHGC lower limit | SHGC upper limit |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 |

Custom* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|-----------------|-------------|----------|-------|-------------------------------|------------------|--|
| | Description | U-value* | 3160 | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2700 | n/a | 60 | W | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | W | No |
| Kit/Meals/Loung | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | W | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1800 | 2400 | n/a | 34 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1000 | 1600 | n/a | 45 | S | No |
| PR | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | S | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1400 | n/a | 45 | S | No |
| Media/Entry | ALM-001-01 A | n/a | 1800 | 1500 | n/a | 60 | Ν | No |
| Media/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Bedroom | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 4 | ALM-002-01 A | n/a | 2100 | 1800 | n/a | 45 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 400 | 600 | n/a | 00 | E | No |
| Bedroom 1 | ALM-002-01 A | n/a | 400 | 1500 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1500 | 1000 | n/a | 10 | Ν | No |
| WIR | ALM-002-01 A | n/a | 1500 | 500 | n/a | 00 | Ν | No |
| Bath | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | W | No |
| Ensuite | ALM-001-01 A | n/a | 1200 | 800 | n/a | 90 | Ν | No |
| Upper Sitting | ALM-002-01 A | n/a | 600 | 2400 | n/a | 45 | S | No |
| | | | | | | | | |

Roof window type and performance

Default* roof windows

| Window ID | Window | N | Maximum | | SHGC* | Substitution tolerance ranges | | | |
|--------------|------------------|-------------|----------|----------|-------|-------------------------------|---------|------------------|--|
| | Descri | Description | | U-value* | | SHGC lower li | imit S | HGC upper limit | |
| No Data Avai | lable | | | | | | | | |
| Custom* root | fwindows | | | | | | | | |
| Window ID | Window | w Maximum | | um | SHGC* | Substitution tolerance ranges | | | |
| | Descri | ption | U-value* | | 31160 | SHGC lower li | imit S | SHGC upper limit | |
| No Data Avai | lable | | | | | | | | |
| Roof wi | i ndow so | chedule | | | | | | | |
| Location | Window | Window | Opening | Height | Width | Orientation | Outdoor | Indoor | |

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



Skylight type and performance

Skylight ID Skylight description

No Data Available

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation | |
|----------|-------------|------------|-----------|-------------|--|
| Garage | 2040 | 4800 | 90 | Ν | |

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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:6W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:7W2:2 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:8W2:5 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:8W2:6 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:9W2:8 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-9 | Fibro Cavity Panel Direct FixZ:10W2:3 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-10 | Fibro Cavity Panel Direct FixZ:12W2:6 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 3600 | W | 3600 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 2000 | S | 4200 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 4495 | W | 50 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 6345 | S | 600 | NO |
| PR | EW-1 | 2550 | 1090 | S | 600 | NO |
| Laundry | EW-1 | 2550 | 1595 | S | 600 | NO |
| Media/Entry | EW-1 | 2550 | 3445 | W | 50 | NO |
| Media/Entry | EW-1 | 2550 | 3650 | Ν | 50 | NO |
| | | | | | | |

* Refer to glossary. Documented on 20.07 2021 using BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

6.1 Star Rating as of 26 Oct 2021



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|---------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Media/Entry | EW-1 | 2550 | 1750 | E | 2000 | YES |
| Media/Entry | EW-1 | 2550 | 1850 | Ν | 1800 | YES |
| Media/Entry | EW-1 | 2550 | 700 | E | 5650 | YES |
| Garage | EW-2 | 2550 | 5545 | Ν | 1300 | YES |
| Bedroom | EW-3 | 900 | 1700 | W | 0 | NO |
| Bedroom | EW-4 | 1500 | 1700 | W | 600 | NO |
| Bedroom | EW-1 | 2400 | 1945 | W | 600 | NO |
| Bedroom | EW-3 | 2400 | 3295 | S | 600 | NO |
| Bedroom 3 | EW-5 | 1500 | 3945 | E | 50 | NO |
| Bedroom 3 | EW-3 | 2400 | 3245 | S | 600 | NO |
| Bedroom 4 | EW-1 | 300 | 3845 | Ν | 0 | NO |
| Bedroom 4 | EW-6 | 2100 | 3845 | Ν | 1800 | NO |
| Bedroom 4 | EW-7 | 1500 | 3245 | E | 50 | NO |
| Bedroom 1 | EW-1 | 2400 | 2450 | E | 5600 | YES |
| Bedroom 1 | EW-1 | 300 | 3945 | Ν | 0 | NO |
| Bedroom 1 | EW-8 | 2100 | 3945 | Ν | 600 | NO |
| WIR | EW-1 | 2400 | 2295 | W | 600 | NO |
| WIR | EW-3 | 2400 | 1150 | W | 600 | NO |
| WIR | EW-1 | 300 | 1545 | Ν | 0 | NO |
| WIR | EW-9 | 2100 | 1545 | Ν | 600 | NO |
| Bath | EW-1 | 2400 | 2540 | W | 600 | NO |
| Ensuite | EW-1 | 300 | 1690 | Ν | 0 | YES |
| Ensuite | EW-10 | 2100 | 1690 | Ν | 1800 | YES |
| Upper Sitting | EW-3 | 2400 | 4490 | S | 600 | NO |

Internal wall type

| Wall ID | Wall type A | rea (m²) | Bulk insulation |
|---|-------------|----------|--|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | | 117.00 | No insulation |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | | 28.00 | Bulk Insulation, No Air Gap R2.5 |
| IW-3 - Shaft liner party wall with plaster | | 30.00 | Bulk Insulation both sides of shaft liner R2 |

Floor type

| Location | Construction | Area Sub-floor (m ²) ventilation | Added insulation (R-value) | Covering |
|-----------------|------------------------------|---|----------------------------|-------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 48.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 1.90 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |

* Refer to glossary.

Documented on 10: 97 99 01 wing BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

6.1 Star Rating as of 26 Oct 2021



| Location | Construction | Area Sub-floor (m) ventilation | Added insulation (R-value) | Covering |
|----------------------------------|-----------------------------------|-----------------------------------|----------------------------|-----------------------------|
| Media/Entry | Waffle pod slab 225 mm 100mm | 15.40 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.30 None | Waffle Pod 225mm | Bare |
| Bedroom /Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom | Suspended Timber Floor 19mm | 3.30 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Laundry | Timber Above Plasterboard 19mm | 2.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Garage | Timber Above Plasterboard 19mm | 7.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Garage | Timber Above Plasterboard 19mm | 12.60 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 0.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Media/Entry | Timber Above Plasterboard 19mm | 10.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1 | Suspended Timber Floor 19mm | 3.10 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR/Media/Entry | Timber Above Plasterboard 19mm | 5.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 8.00 | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Garage | Timber Above Plasterboard 19mm | 5.00 | No Insulation | Ceramic Tiles 8mm |
| Upper Sitting/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 16.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Sitting/Garage | Timber Above Plasterboard 19mm | 4.80 | No Insulation | Carpet+Rubber Underlay 18mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|---|---------------------|
| Kit/Meals/Loung | Plasterboard | Bulk Insulation R4 | No |
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Plasterboard | Bulk Insulation R4 | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Media/Entry | Timber Above Plasterboard | No Insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |
| WIR | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |

* Refer to glossary. Documented on 26.097 9801 using BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road , WERRINGTON , NSW , 2747 Version: 1, Version Date: 04/11/2021



| Location | Construction | Bulk insulation R-value | Reflective |
|---------------|---------------|--------------------------------|------------|
| | material/type | (may include edge batt values) | wrap* |
| Upper Sitting | Plasterboard | Bulk Insulation R4 | No |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm ²) | Sealed/unsealed |
|-----------------|----------|------------------|-----------------------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available | | |
| Roof type | | |

| Construction Added insulation (R-value) | | Solar absorptance | Roof shade | |
|---|--|-------------------|------------|--|
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark | |
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark | |



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

* Refer to glossary. Doc GMPERTES on 16: 97-9931 using BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

Nationwide House Energy Rating Scheme NatHERS Certificate No. 0006710750

Generated on 26 Oct 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address

Superlot 2230 Spinifex Road , WERRINGTON , NSW , 2747

NCC Class

Lot/DP

Type

1A

1524/.

New Dwelling

Plans

Main Plan Prepared by

9900051 AN

Construction and environment

Assessed floor area (m²)* Conditioned* 130.0

| Conditioned* | 130.0 |
|----------------|-------|
| Unconditioned* | 43.0 |
| Total | 173.0 |
| Garage | 31.0 |

Exposure Type Suburban

NatHERS climate zone

CCREDIARS Toppedon

Accredited assessor

Name Business name Email Phone Accreditation No.

chris@silmanbuilding.com.au 0417487743 20753

Christina Silman

Silman Building Pty Ltd

Assessor Accrediting Organisation

ABSA

Declaration of interest

Declaration completed: no conflicts

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

81.7 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 |
|-------------------|-------------------|
| 45.8 | 35.9 |
| 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=YYdZMsfqX. 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

R2.5 to internal garage walls

Window and glazed door type and performance

Default* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|--------------|--------------------------------------|----------|-------|-------------------------------|------------------|--|
| | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit | |
| ALM-002-01 A | ALM-002-01 A Aluminium B SG Clear | 6.7 | 0.70 | 0.66 | 0.73 | |
| ALM-001-01 A | ALM-001-01 A Aluminium A SG Clear | 6.7 | 0.57 | 0.54 | 0.60 | |
| TIM-001-01 W | TIM-001-01 W Timber A SG Clear | 5.4 | 0.56 | 0.53 | 0.59 | |

Custom* windows

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|-----------------|-------------|----------|-------|-------------------------------|------------------|--|
| | Description | U-value* | 3160 | 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* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 1800 | n/a | 45 | S | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 2100 | 2400 | n/a | 45 | W | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 600 | 2400 | n/a | 00 | E | No |
| Kit/Meals/Loung | ALM-002-01 A | n/a | 1200 | 1200 | n/a | 45 | E | No |
| Laundry | ALM-001-01 A | n/a | 1800 | 600 | n/a | 60 | Ν | No |
| Laundry | ALM-002-01 A | n/a | 1800 | 1200 | n/a | 00 | Ν | No |
| Laundry | ALM-002-01 A | n/a | 2100 | 1600 | n/a | 45 | E | No |
| Study/Entry | ALM-002-01 A | n/a | 2100 | 600 | n/a | 00 | Ν | No |
| Study/Entry | TIM-001-01 W | n/a | 2100 | 820 | n/a | 90 | Ν | No |
| Bedroom 2 | ALM-002-01 A | n/a | 700 | 2100 | n/a | 10 | S | No |
| Bedroom 3 | ALM-001-01 A | n/a | 1000 | 800 | n/a | 10 | W | No |
| Bedroom 3 | ALM-001-01 A | n/a | 1000 | 800 | n/a | 10 | W | No |
| Bedroom 4 | ALM-002-01 A | n/a | 1000 | 1800 | n/a | 10 | W | No |
| Bedroom 4 | ALM-002-01 A | n/a | 600 | 1800 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 600 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 600 | n/a | 10 | Ν | No |
| Bedroom 1 | ALM-002-01 A | n/a | 1200 | 1200 | n/a | 00 | Ν | No |
| Bedroom 1 | ALM-001-01 A | n/a | 1200 | 600 | n/a | 10 | E | No |
| Bath | ALM-002-01 A | n/a | 1000 | 1500 | n/a | 45 | S | No |
| Ensuite | ALM-001-01 A | n/a | 900 | 600 | n/a | 90 | E | No |
| Guest/Media | ALM-002-01 A | n/a | 600 | 1800 | n/a | 45 | W | No |
| Guest/Media | ALM-001-01 A | n/a | 1800 | 800 | n/a | 60 | Ν | No |
| Guest/Media | ALM-001-01 A | n/a | 1800 | 800 | n/a | 60 | Ν | No |

Roof window type and performance

Default* roof windows

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

6.3 Star Rating as of 26 Oct 2021



Roof window schedule

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

No Data Available

Skylight type and performance

| Skylight ID | Skylight description | |
|-------------------|----------------------|--|
| No Data Available | | |

Skylight schedule

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

External door schedule

| Location | Height (mm) | Width (mm) | Opening % | Orientation |
|----------|-------------|------------|-----------|-------------|
| Garage | 2040 | 4800 | 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 | Bulk Insulation R2.5 | No |
| EW-2 | Single Skin Brick | 0.50 | Medium | No insulation | No |
| EW-3 | Fibro Cavity Panel Direct Fix | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-4 | Fibro Cavity Panel Direct FixZ:6W2:4 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-5 | Fibro Cavity Panel Direct FixZ:7W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-6 | Fibro Cavity Panel Direct FixZ:7W2:2 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-7 | Fibro Cavity Panel Direct FixZ:7W2:3 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-8 | Fibro Cavity Panel Direct FixZ:8W2:0 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-9 | Fibro Cavity Panel Direct FixZ:8W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-10 | Fibro Cavity Panel Direct FixZ:10W2:1 | 0.50 | Medium | Bulk Insulation R2.5 | No |
| EW-11 | Fibro Cavity Panel Direct FixZ:13W2:4 | 0.50 | Medium | Bulk Insulation 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) |
|-----------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| Kit/Meals/Loung | EW-1 | 2550 | 3000 | S | 50 | YES |
| Kit/Meals/Loung | EW-1 | 2550 | 3590 | W | 3200 | NO |
| Kit/Meals/Loung | EW-1 | 2550 | 5495 | E | 50 | NO |

^{*} Refer to glossary.

Documented on 20. 07 9801 wing BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

6.3 Star Rating as of 26 Oct 2021



| Location | Wall ID | Height (mm) | Width (mm) | Orientation | Horizontal shading feature* maximum projection (mm) | Vertical shading feature (yes/no) |
|-------------|------------|----------------|---------------|-------------|---|-----------------------------------|
| | | | | | | |
| Laundry | EW-1 | 2550 | 2345 | Ν | 50 | NO |
| Laundry | EW-1 | 2550 | 2295 | E | 50 | NO |
| Study/Entry | EW-1 | 2550 | 3640 | Ν | 1600 | NO |
| Garage | EW-2 | 2550 | 5595 | W | 600 | NO |
| Garage | EW-2 | 2550 | 5595 | E | 600 | YES |
| Garage | EW-2 | 2550 | 5550 | S | 600 | NO |
| Bedroom 2 | EW-3 | 2400 | 4750 | S | 600 | NO |
| Bedroom 2 | EW-3 | 2400 | 2145 | W | 600 | YES |
| Bedroom 2 | EW-4 | 1500 | 4090 | Ν | 5850 | NO |
| Bedroom 2 | EW-3 | 2400 | 500 | E | 4400 | YES |
| Bedroom 3 | EW-1 | 900 | 3050 | S | 0 | YES |
| Bedroom 3 | EW-5 | 1500 | 3050 | S | 600 | YES |
| Bedroom 3 | EW-1 | 900 | 3000 | W | 0 | NO |
| Bedroom 3 | EW-6 | 1500 | 3000 | W | 600 | NO |
| Bedroom 3 | EW-1 | 900 | 2000 | Ν | 0 | YES |
| Bedroom 3 | EW-7 | 1500 | 2000 | Ν | 600 | YES |
| Bedroom 4 | EW-1 | 600 | 3145 | W | 0 | YES |
| Bedroom 4 | EW-8 | 1800 | 3145 | W | 600 | YES |
| Bedroom 4 | EW-1 | 600 | 3645 | Ν | 0 | NO |
| Bedroom 4 | EW-9 | 1800 | 3645 | Ν | 600 | NO |
| Bedroom 1 | EW-3 | 2400 | 2495 | Ν | 2050 | NO |
| Bedroom 1 | EW-1 | 2400 | 2350 | Ν | 600 | NO |
| Bedroom 1 | EW-1 | 2400 | 3345 | E | 600 | NO |
| WIR(Large) | EW-10 | 1500 | 2545 | Ν | 3950 | NO |
| WIR(Large) | EW-1 | 2400 | 1490 | E | 600 | NO |
| Bath | EW-3 | 2400 | 1890 | S | 600 | YES |
| Ensuite | EW-1 | 2400 | 2945 | E | 600 | NO |
| Ensuite | EW-1 | 2400 | 1895 | S | 600 | NO |
| Upper Stair | EW-1 | 600 | 1090 | Ν | 0 | NO |
| Upper Stair | EW-11 | 1800 | 1090 | Ν | 2050 | NO |
| Guest/Media | EW-1 | 2550 | 1145 | W | 3200 | YES |
| Guest/Media | EW-1 | 2550 | 1050 | S | 10950 | YES |
| Guest/Media | EW-1 | 2550 | 3050 | W | 50 | NO |
| Guest/Media | EW-1 | 2550 | 3595 | N | 50 | NO |

6.3 Star Rating as of 26 Oct 2021



Internal wall type

| Wall ID | Wall type | Area (m²) | Bulk insulation |
|---|-----------|-----------|----------------------------------|
| IW-1 - Cavity wall, direct fix plasterboard, single gap | | 26.00 | Bulk Insulation, No Air Gap R2.5 |
| IW-2 - Cavity wall, direct fix plasterboard, single gap | | 124.00 | No insulation |

Floor type

| Location | Construction | Area Sub-floor (m ²) ventilation | Added insulation (R-value) | Covering |
|-----------------------------|--------------------------------|---|----------------------------|-----------------------------|
| Kit/Meals/Loung | Waffle pod slab 225 mm 100mm | 34.50 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| PR | Waffle pod slab 225 mm 100mm | 2.50 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Laundry | Waffle pod slab 225 mm 100mm | 5.20 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Study/Entry | Waffle pod slab 225 mm 100mm | 12.70 None | Waffle Pod 225mm | Ceramic Tiles 8mm |
| Garage | Waffle pod slab 225 mm 100mm | 30.80 None | Waffle Pod 225mm | Bare |
| Bedroom 2/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 11.20 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 2/Garage | Timber Above Plasterboard 19mm | 2.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 1.20 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3/Guest/Media | Timber Above Plasterboard 19mm | 0.70 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 3 | Suspended Timber Floor 19mm | 9.00 Totally Open | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 4/Guest/Media | Timber Above Plasterboard 19mm | 10.90 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 2.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/PR | Timber Above Plasterboard 19mm | 1.50 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Laundry | Timber Above Plasterboard 19mm | 5.30 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bedroom 1/Study/Entry | Timber Above Plasterboard 19mm | 5.00 | No Insulation | Carpet+Rubber Underlay 18mm |
| WIR(Large)/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 3.40 | No Insulation | Carpet+Rubber Underlay 18mm |
| Bath/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 6.00 | No Insulation | Ceramic Tiles 8mm |
| Bath/PR | Timber Above Plasterboard 19mm | 1.00 | No Insulation | Ceramic Tiles 8mm |
| Ensuite/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 5.40 | No Insulation | Ceramic Tiles 8mm |
| Upper Stair/Kit/Meals/Loung | Timber Above Plasterboard 19mm | 4.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Stair/Study/Entry | Timber Above Plasterboard 19mm | 7.50 | No Insulation | Carpet+Rubber Underlay 18mm |
| Upper Stair/Guest/Media | Timber Above Plasterboard 19mm | 1.10 | No Insulation | Carpet+Rubber Underlay 18mm |
| Guest/Media | Waffle pod slab 225 mm 100mm | 12.80 None | Waffle Pod 225mm | Ceramic Tiles 8mm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-----------------|-------------------------------|--|---------------------|
| Kit/Meals/Loung | Timber Above Plasterboard | No Insulation | No |
| PR | Timber Above Plasterboard | No Insulation | No |
| Laundry | Timber Above Plasterboard | No Insulation | No |
| Study/Entry | Timber Above Plasterboard | No Insulation | No |

* Refer to glossary. Doctimented en 16: 97 3921 using BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021

6.3 Star Rating as of 26 Oct 2021



| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* |
|-------------|-------------------------------|--|---------------------|
| Garage | Plasterboard | No insulation | No |
| Garage | Timber Above Plasterboard | No Insulation | No |
| Bedroom 2 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 3 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 4 | Plasterboard | Bulk Insulation R4 | No |
| Bedroom 1 | Plasterboard | Bulk Insulation R4 | No |
| WIR(Large) | Plasterboard | Bulk Insulation R4 | No |
| Bath | Plasterboard | Bulk Insulation R4 | No |
| Ensuite | Plasterboard | Bulk Insulation R4 | No |
| Upper Stair | Plasterboard | Bulk Insulation R4 | No |
| Guest/Media | Timber Above Plasterboard | No Insulation | No |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter (mm²) | Sealed/unsealed |
|-----------------|----------|------------------|----------------|-----------------|
| Kit/Meals/Loung | 4 | Downlights - LED | 150 | Sealed |
| PR | 1 | Exhaust Fans | 150 | Sealed |
| Bath | 1 | Exhaust Fans | 300 | Sealed |
| Ensuite | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter (mm) |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation (R-value) | Solar absorptance | Roof shade |
|--------------|--|-------------------|------------|
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |
| Roof Tiles | Foil, Gap Above, Reflective Side Down, Anti-glare Up | 0.85 | Dark |



Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

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

* Refer to glossary. Doc GMPERTES on 16: 97-9931 using BERS Pro v4.4.0.6 (3.21) for Superlot 2230 Spinifex Road, WERRINGTON, NSW, 2747 Version: 1, Version Date: 04/11/2021