Nationwide House Energy Rating Scheme[®] Multiple Class 1 dwellings Summary NatHERS[®] Certificate No. 0011806470

Generated on 24 Mar 2025 using BERS Pro v5.2.4 (3.23)

Property

Address

Lot/DP L
NatHERS Climate Zone 6

GRATTAI, NSW, 2850 Lot 27 DP 255363 65 Orange

346 Beragoo Rd,



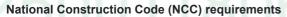
Accredited assessor

| Name | marc kiho |
|---------------------------|---------------------------|
| Business name | kiho building consulting |
| Email | energy_rating@bigpond.com |
| Phone | 0400 680 815 |
| Accreditation No. | 20094 |
| Assessor Accrediting Orga | nisation |
| 1001 | |

ABSA

Verification

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



The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Summary of all dwellings

| Certificate number and link | Unit Number | Heating load (load limit) [MJ/m ² /p.a.] | Cooling load (load limit) [MJ/m ² /p.a.] | Total load [MJ/m²/p.a.] | Star Rating | Whole of Home Rating |
|--------------------------------|-------------|---|---|----------------------------|-------------|-------------------------|
| 0011806411 | | 121.7 (N/A) | 11.4 (N/A) | 133.2 | 7.5 | 0 |
| 0011806429 | 2 | 97.3 (N/A) | 12.0 (N/A) | 109.2 | 8.1 | 0 |

Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au









| Certificate number and link | Unit Number | Heating load (load limit) [MJ/m ² /p.a.] | Cooling load (load limit) [MJ/m ² /p.a.] | Total load [MJ/m²/p.a.] | Star Rating | Whole of Home Rating |
|--------------------------------|-------------|---|---|----------------------------|-------------|-------------------------|
| 0011806437 | 3 | 97.3 (N/A) | 12.0 (N/A) | 109.2 | 8.1 | 0 |
| 0011806460 | 4 | 97.3 (N/A) | 12.0 (N/A) | 109.2 | 8.1 | 0 |
| 0011806445 | 5 | 97.3 (N/A) | 12.0 (N/A) | 109.2 | 8.1 | 0 |
| 0011806452 | 6 | 129.8 (N/A) | 9.1 (N/A) | 139.0 | 7.4 | 0 |

Summary of all dwellings (continued)

Explanatory notes

About this ratings

Individual unit ratings are listed in the 'Summary of all dwellings' section of this Certificate.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the energy loads and societal cost. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy production and storage to estimate the homes societal cost.

For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

For high quality NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Licensed assessors in the Australian Capital Territory (ACT) can produce assessments for regulatory purposes only, using endorsed software, as listed on the ACT licensing register.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

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The predicted annual energy use, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way. Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

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Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0011806411

Unit 1, 346 Beragoo Rd,

Generated on 24 Mar 2025 using BERS Pro v5.2.4 (3.23)

Property

Address

Lot/DP NCC class' Floor/all Floors Type

GRATTAL, NSW, 2850 Lot 27 DP 255363 1bG of 1 floors New Home

Plans

Main plan Prepared by W Chow Sunrai Designs

Construction and environment

Assessed floor area [m2]*

Conditioned* 21.6 Unconditioned* 4.5 26.2 Total Garage 0.0

Exposure type Open NatHERS climate zone 65 Orange



Accredited assessor

Name **Business name** Email Phone Accreditation No. Assessor Accrediting Organisation ABSA Declaration of interest Declaration completed: no conflicts

marc kiho kiho building consulting energy_rating@bigpond.com 0400 680 815 20094

NCC Requirements

NCC provisions Strate/Territory variation Volume Two

Yes

National Construction Code (NCC) requirements

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Thermal performance Star rating

The more stars the more energy efficient

NATIONWIDE

133.2 MJ/m²

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 [MJ/m²]

Limits taken from ABCB Standard 2022

| | Heating | Cooling |
|------------|---------|---------|
| Nodelled | 121.7 | 11.4 |
| oad limits | N/A | N/A |

Features determining load limits

| Floor Type (lowest conditioned area) | csog |
|---|------|
| NCC climate zone 1 or 2 | No |
| Outdoor living area | No |
| Outdoor living area ceiling fan | No |

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

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





Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG - Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



7.5 Star Rating as of 24 Mar 2025

| Certificate check | Approva | I Stage | Construe Stage | ction | KALIOSYMUL |
|--|------------------|--|-------------------|---------------------------------------|--|
| The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked. | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |
| Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist. | Asses | Conse Surve) | Builde | Conse Survey | Occup |
| Genuine certificate check | | л | л | | |
| Does this Certificate match the one available at the web address or QR code verification link on the front page? | | | | | |
| Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate? | | | | | |
| Thermal performance check | | | | | |
| Windows and glazed doors | | | | | |
| Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate? | | | | | |
| Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate? | | | | | |
| External walls | | | | | |
| Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate? | | | | | |
| Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate? | | | | | |
| Floor | | | | | |
| Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate? | | | | | |
| Ceiling penetrations* | | | | | |
| Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate? | | | | | |
| Ceiling | | | | | |
| Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate? | | | | | |
| Roof | | | | | |
| Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate? | | | | | |
| Apartment entrance doors (NCC Class 2 assessments only) | | | | | |
| 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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected". | | | | | |
| Heating and cooling load limits* | | | | | |
| Do the load limits settings (shown on page 1) match what is shown | | | | | |

7.5 Star Rating as of 24 Mar 2025

| | Approva | l Stage | Construe Stage | ction | |
|-------------------|------------------|--|-------------------|---------------------------------------|-----------------|
| Certificate check | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |

Additional NCC requirements for thermal performance (not included in the NatHERS assessment)

| Thermal bridging | | | | | |
|---|------------|------------|-------------|------------|------|
| Does the dwelling meet the NCC requirement for thermal bridging? | | | | | |
| Insulation installation method | | | | | |
| Has the insulation been installed according to the NCC requirements? | | | | | |
| Building sealing | | | | | |
| Does the dwelling meet the NCC requirements for Building Sealing? | | | | | |
| Whole of Home performance check (not applicable if a Whole of Hom | e performa | ance asses | ssment is r | not conduc | ted) |
| Appliances | | | | | |
| Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? | | | | | |
| Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate? | | | | | |
| Additional NCC Requirements for Services (not included in the | NatHERS | assessi | ment) | | |
| Does the lighting meet the artificial lighting requirements specified in the NCC? | | | | | |
| Does the hot water system meet the additional requirements specified in the NCC? | | | | | |
| Provisional values* check | | | | | |
| Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below? | | | | | |

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

| Room | Zone Type | Area [m ²] |
|-----------------|----------------|------------------------|
| Kitchen/Living1 | Kitchen/Living | 16.52 |
| Bedroom 1 | Bedroom | 5.11 |
| Unconditioned 1 | Unconditioned | 4.54 |

Window and glazed door type and performance

Default windows*

| Window ID | Window | Maximum | SHGC* | * Substitution tolerance range | | | |
|--------------|----------------------|----------|-------|--------------------------------|------------------|--|--|
| | Description | U-value* | | SHGC lower limit | SHGC upper limit | | |
| | Aluminium B DG Argon | | | | | | |
| ALM-006-03 A | Fill High Solar Gain | 4.1 | 0.52 | 0.49 | 0.55 | | |
| | low-E | | | | | | |

Custom windows*

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|----------------|-------------|----------|-------|-----------------------------------|--|--|
| | Description | U-value* | 3660 | SHGC lower limit SHGC upper limit | | |
| No Data Availa | able | | | | | |

Window and glazed door schedule

| Location | Window ID | Window no. | Height [mm] | Width [mm] | Window type | Opening % | Orientation | Window shading device* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kitchen/Living1 | ALM-006-03 A | W2 | 1500 | 1800 | Sliding | 45 | SW | No |
| Unconditioned 1 | ALM-006-03 A | W1 | 600 | 1500 | Sliding | 45 | NE | No |

Roof window* type and performance value

Default roof windows*

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

Custom roof windows*

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



Roof window* schedule

| Location | Window ID | Window no. | Opening % | Height [mm] | Width [mm] | Orientation | Outdoor shade | Indoor shade |
|-------------------|--------------|---------------|--------------|----------------|---------------|-------------|------------------|-----------------|
| No Data Available | | | | | | | | |

Skylight* type and performance

| Skylight ID | Skylight description | Skylight shaft reflectance |
|-------------|---|----------------------------|
| GEN-04-008a | Double-glazed clear, Timber and Aluminium Frame | 0.5 |

Skylight* schedule

| Location | Skylight ID | Skylight No. | Skylight shaft length [mm] | Area [m ²] | Outdoor shade | Diffuser |
|-----------------|----------------|-----------------|----------------------------------|---------------------------|------------------|----------|
| Unconditioned 1 | GEN-04-008a | S1 | 1000 | 0.39 NE | None | No |

External door schedule

| Location | Height [mm] | Width [mm] | Opening % | Orientation |
|-----------------|-------------|------------|-----------|-------------|
| Kitchen/Living1 | 2040 | 820 | 90 | NE |

External wall type

| Wall | Wall | Solar | Bulk insulation | Reflective |
|------|--|-------------|-------------------------------|------------|
| ID | type | absorptance | [R-value] | wall wrap* |
| EW-1 | Metal Timber Stud Frame Panel on Battens | 0.50 | Bulk Insulation, Air Gap R2.7 | No |

External wall schedule

| Location | Wall ID | Height [mm] | Width [mm] | Orientation | Horizontal shading feature* maximum projection [mm] | Vertical shading feature [yes/no] |
|-----------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Kitchen/Living1 | EW-1 | 2700 | 2200 | SW | 400 | No |
| Kitchen/Living1 | EW-1 | 2700 | 1800 | NW | 400 | No |
| Kitchen/Living1 | EW-1 | 2700 | 1800 | NE | 1800 | No |
| Bedroom 1 | EW-1 | 2700 | 2000 | SW | 400 | No |
| Bedroom 1 | EW-1 | 2700 | 2600 | NW | 400 | No |
| Unconditioned 1 | EW-1 | 2700 | 2000 | NW | 400 | No |
| Unconditioned 1 | EW-1 | 2700 | 2400 | NE | 1800 | No |



Internal wall type

| Wall ID | Wall type | Area [m ² |] Bulk insulation |
|---------|--|----------------------|--|
| IW-001 | Shaft liner party wall with plaster | 0.00 | Bulk Insulation both sides of shaft liner R2.7 |
| IW-002 | Timber Stud Frame, Direct Fix Plasterboard | 5.40 | No insulation |
| IW-003 | Timber Stud Frame, Direct Fix Plasterboard | 5.40 | Bulk Insulation, No Air Gap R2.7 |

Floor type

| Location | Construction | Area [m ²] | Sub-floor ventilation | Added insulation [R-value] | Covering |
|------------------|------------------------|---------------------------|--------------------------|----------------------------------|---------------------------|
| Kitchen/Living1 | Waffle pod slab 225 mm | 16.52 | None | Waffle Pod | 60/40 Carpet 10mm/Ceramic |
| Kitchen/Living i | 100mm | 10.52 | | 225mm | |
| Bedroom 1 | Waffle pod slab 225 mm | 5.11 | None | Waffle Pod | Carpet+Rubber Underlay |
| | 100mm | 5.11 | NULLE | 225mm | 18mm |
| Unconditioned 1 | Waffle pod slab 225 mm | 4.54 | None | Waffle Pod | Ceramic Tiles 8mm |
| | 100mm | 4.04 | NONG | 225mm | |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* [yes/no] |
|-----------------|-------------------------------|---|------------------------------|
| Kitchen/Living1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Bedroom 1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Unconditioned 1 | Plasterboard on Timber | Bulk Insulation R5 | |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter [mm] | Sealed/unsealed |
|-----------------|----------|--------------|---------------|-----------------|
| Unconditioned 1 | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter [mm] |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation | Solar | Roof shade |
|------------------------------|---|-------------|------------|
| | [R-value] | absorptance | [colour] |
| Corrugated Iron Timber Frame | Bulk+Foil, Reflective Side Down, Anti-glare Up R1.3 | 0.50 | Medium |



Thermal bridging schedule for steel frame elements

| Building element | Steel section dimensions [height x width, mm] | Frame spacing [mm] | Steel thickness [BMT,mm] | Thermal break [R-value] |
|-------------------|--|--------------------|-----------------------------|-------------------------------|
| No Data Available | | | | |

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

| Appliance/ system type | Lo | cation F | uel type | effi | nimum ciency/ ormance | | mended acity |
|------------------------|-----------|--------------------------|-------------------------------|-----------------------------------|-----------------------------|---|------------------------------------|
| No Data Available | | | | | | | |
| Heating system | | | | | | | |
| Appliance/ system type | Lo | cation F | uel type | effi | nimum ciency/ ormance | | mended acity |
| No Data Available | | | | | | | |
| Hot water system | | | | | | | |
| Appliance/ system type | Fuel type | Hot Water CER Zone | Minimum efficiency /STC | Zone 3 STC - | | Ibstitution e ranges upper limit | Assessed daily load [litres] |
| No Data Available | | | | | | | |
| Pool/spa equipment | | | | | | | |
| Appliance/ system type | | Fuel type | | Minimur efficienc performar | y/ | Recomm capad | |
| No Data Available | | | | | | | |

Onsite Renewable Energy Schedule

| System Type | Orientation | System Size Or Generation Capacity |
|-------------------|-------------|------------------------------------|
| No Data Available | | |



Battery Schedule

System Type

Size [Battery Storage Capacity]

No Data Available



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

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Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained 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 modelied in the software for the purpose of the NatFLERS assessment. Nock, this may note consistent with the floor area in the design documents. Ceiling penetrations Eleatures that require a penetration to the calling, including downlights, verits, exhaust fans, range hoods, chimmey's and flues. Eleatures that requires a penetration to the calling with shall holes through the calling of wiring, e.g. celling fans, pendant lights, and cooling based on standard occupancy assumptions. In some circumstances it will include garages. Custom windows windows listed in NatFLERS software that are available on the market in Australia and have a WERS (Window Energy Rating windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. ERR Energy Efficiency Ratio, measure of how much cooling can be achived by an air conditioner for a single KWh of electricity input file in the modeling in software and must not be modeled as a door when opening to a minimally verificated control to a class 2 building. Exposure Case actigories below. Exposure category – exposed Errain with numerous, closely apaced obstructions below. Carling and could areas. Exposure category – souted Errain with numerous, closely apaced obstructions below. Carlina areas. Carlina areas. Exposure category – souted Errain with numero | AFRC | Australian Fenestration Rating Council |
|--|---|--|
| Assessed floor area The floor area modelled in the software for the purpose of the NatHERS assessment. Nole, this may not be consistent with the floor area in the design documents. Ceiling penetrations Eastures that require a penetration to the ceiling (in cluid) downlights, wrise, schaust fans, range hoods, chimmeys and flues. Conditioned Zone within a welling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages. Custom windows Windows lister in NatHERS Software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. Default windows Mindows floor area may window lister in a penetration to the cooling can be achieved by an air conditioner for a single kWh of electricity input. EER Energy value The set your homes rating without solar or batteries. Energy value The set your homes rating without solar or batteries. Energy value Exposure category – exposed The exposure last the obstructions set, the home colling software and must not be modelled as a door when opening to a minimally within the floor in a categor state software in a similar height e.g. gasalands with few wells categor down to software shafting. Exposure category – open terrain with numerous, closely spaced obstructions wort 0m e.g. city and industrial areas. provides shafting in the horizontal plane, e.g. eaves, verandars, new endse NCC Class. Reture tating percentage | | M. A Contract of the second seco |
| COP Coefficient of performance Conditioned a zone within a dwelling that is expected to require heating and cooling based on standard occupacy assumptions. In some control to performance is within chube garages. Custom windows Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input. Default windows Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input. ERR Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input. Entrance door Thes is your homes rating without solar or batteries. 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 - porent terrain with no obstructions e.g., flat grazing land, ocean-fontage, desert, exposed high-rise unti (usually above 10 floors). Exposure category - ported terrain with worbstructions e.g., flat grazing land, ocean-fontage, desert, exposed, obstruction below 10m, fammad with scattered sheed, lightly vegetated bushind areas. Exposure category - suburban terrain with numerous, closely spaced obstructions below 10m (armalmad with scattered sheed). Exposure category - ported. terrain with numerous, closely spaced obstructions below. | | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the |
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| Curronitational circumstances it will include garages. Custom windows windows their of NATERS 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 input. ERR Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input. Energy use The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Exposure category – exposed Errain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – protected terrain with numerous, closely spaced obstructions below flore, g. suburban housing, heavily vegetated bushland areas. Horizontal shafing feature then NCC groups building in the horizontal plane, e.g. eaves, vermadhas, pergolas, caprots, or overhangs or balconies from upper levels. Provisional value an me that achieves a net zero energy value ² . Refective wrap (also known as solution of version and value of medaling, of the was all stabed Closes 10 ab ubility as the openability percentage pervisional value of medaling of the measure of version and value of the openability percentage or operable (moveable) area of doors or windows that is used in ventiliation calculatio | COP | Coefficient of performance |
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| Details windows methods. EER Energy use Energy use This is your homes rating without solar or batteries. Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard). Exposure terrain with no obstructions e.g. fat grazing land, ocean-frontage. desert, exposed high-rise unit (usually above 10 floors). Exposure category – open terrain with no obstructions e.g. fat grazing land, ocean-frontage. desert, exposed high-rise unit (usually above 10 floors). Exposure category – open terrain with no obstructions e.g. fat grazing land, ocean-frontage. desert, exposed high-rise unit (usually above 10 floors). Exposure category – open terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas. Exposure category – use to the exposed costructions or to e.g. a dispose a costing or overhangs or balconies for the expose terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas. National Construction Code the vector buildings. Definitions can be found at www.abcb.gova.u. Note zero home the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. An other that calcieves an at zero energy value. the openability percentage or operable (moveable) area of doors or windows that is used in ventilation | Custom windows | |
| Etch input ² The is your homes rating without solar or batteries. Energy use This is your homes rating without solar or batteries. Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Entrance door these signify vertilation 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 – expose see exposure categories below. Exposure category – open terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – protected terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – protected terrain with numerous, closely spaced obstructions over 10 m.e.g. suburban housing, heavily vegetated bushand areas. Provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels. Net zero home a home that achieves a net zero energy value*. Opening percentage a home that achieves a net zero energy value*. Provisional value can be capacity or zero energy value*. Opening percentage the open | Default windows | |
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| Exposure category – open terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with Exposure category – protected terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas. Exposure category – suburban terrain with numerous, closely spaced obstructions below 10m 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 National Construction Code the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10 buildings. Definitions can be found at www.abcb.gov.au. Net zero home a home that achieves a net zero energy value*. 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 undeitor www.nathers.gov.au Nis is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the Zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified spress. Reflective wrap (also known as roof lights) for NatHERS this is typically a noperable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does for howe a olffuser. Shading features includes neig | · · · | |
| Exposure category – protected terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas. Exposure category – suburban 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 National Construction Code (NCC) Class the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au. Net zero home a home that achieves a net zero energy value*. 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 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 Recommended capacity this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or ones serviced. This is a recommended with an appropriate airgap and emissivity value, it provides space, and generally does not have a diffuser. Rof 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 | Exposure category – exposed | |
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| National Construction Code (NCC) Class from upper levels. National Construction Code (NCC) Class the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au. Net zero home a home that achieves a net zero energy value*. 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 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 Recommended capacity zero f equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person. Reflective wrap (also known as foll) can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides includes neighbouring buildings, fonces, and wing walls, but excludes eaves. Skylight (also known as roof lights) 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 features includes neighbouring buildings, fonces, and wing walls, but excludes eaves. Skylight (also known as ro | Exposure category – suburban | |
| Net zero home a home that achieves a net zero energy value*. 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 Recommended capacity The capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person. 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 features includes neighbouring buildings, fences, and wing walls, but excludes eaves. 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. Stocs Small-scale Technology Certificates. certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Smal-scale Renewable En | Horizontal shading feature | from upper levels. |
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| 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 Recommended capacity this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the insulative properties. 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 features includes neighbouring buildings, fences, and wing walls, but excludes eaves. 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. StGs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is no subating ability. U-value the rate of heat transfer t | | 67 67 |
| Provisional value 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 Recommended capacity this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person. 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 features includes neighbouring buildings, fences, and wing walls, but excludes eaves. 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. Solar heat gain coefficient 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 ransmits. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) Thermal breaks <th>Opening percentage</th> <th></th> | Opening percentage | |
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| foil) insulativé 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 features includes neighbouring buildings, fences, and wing walls, but excludes eaves. 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. 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. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) u-value the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. u-value the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. u-value a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. provides shading features provides shading to the building (wing walls), fences, other building, wegetation (protected or listed heritage heres). window schading device <th>Recommended capacity</th> <th>zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified</th> | Recommended capacity | zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified |
| Rtoch window space, and generally does not have a diffuser. Shading features includes neighbouring buildings, fences, and wing walls, but excludes eaves. 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. 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. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER) Thermal breaks Small-scale Technology Certificates, certificates created by the Clean Energy Regulator (CER) u-value the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. u-value the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. u-conditioned 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 (wing walls), fences, other building, wegetation (protected or listed heritage trees). window chading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading | Reflective wrap (also known as foil) | |
| Skylight (also known as roof lights) for NatHERŠ this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level. 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. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips 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), fonces, other building, vegetation (protected or listed heritage reces). device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading <th>Roof window</th> <th>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.</th> | 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. |
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| String and contribution 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. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips U-value the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. ucconditioned a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. vertical shading features privacy screens, other walls in the building (wing walls), fences, other building, vegetation (protected or listed heritage trees). Window chading dovice device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading | Skylight (also known as roof lights) | |
| Sites bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) ⁺ Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as polystyrene insulation sheeting or plastic strips 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). Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading | Solar heat gain coefficient (SHGC) | subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar |
| Thermal breaks but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips. 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 building, vegetation (protected or listed heritaget heres). Window shading dovice device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading | STCs | bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) |
| 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). Window shading dovice device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading | Thermal breaks | but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such |
| 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). Window shading dovice device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading | U-value | the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. |
| Window shading dovice device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading | Unconditioned | |
| Window shading device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading | 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). |
| reatures (eg eaves and balconies) | Window shading device | device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies) |

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0011806429

Generated on 24 Mar 2025 using BERS Pro v5.2.4 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 2, 346 Beragoo Rd, GRATTAI , NSW , 2850 Lot 27 DP 255363 1b G of 1 floors New Home

Plans

Main plan Prepared by W Chow Sunrai Designs

Construction and environment

Assessed floor area [m2]*

Conditioned* 21.6 Unconditioned* 4.5 Total 26.2 Garage 0.0 Exposure type Open NatHERS climate zone 65 Orange



Accredited assessor

 Name
 marc kiho

 Business name
 kiho building consulting

 Email
 energy_rating@bigpond.com

 Phone
 0400 680 815

 Accreditation No.
 20094

 Assessor Accrediting Organisation

 ABSA

 Declaration of interest
 Declaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume Two

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

109.2 MJ/m²

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 [MJ/m²]

Limits taken from ABCB Standard 2022

| | Heating | Cooling |
|-------------|---------|---------|
| Modelled | 97.3 | 12.0 |
| Load limits | N/A | N/A |

Features determining load limits

| Floor Type (lowest conditioned area) | csog |
|---|------|
| NCC climate zone 1 or 2 | No |
| Outdoor living area | No |
| Outdoor living area ceiling fan | No |

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

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





Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG - Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



8.1 Star Rating as of 24 Mar 2025

| | 1 | | | | HOUSE |
|--|------------------|--|-------------------|---------------------------------------|-----------------|
| Certificate check | Approva | I Stage | Construe Stage | ction | |
| The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked. | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |
| Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist. | Assesso | Consent Surveyo | Builder o | Consent Surveyo | Occupar |
| Genuine certificate check | | | | | |
| Does this Certificate match the one available at the web address or QR code verification link on the front page? | | | | | |
| Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate? | | | | | |
| Thermal performance check | | | | | |
| Windows and glazed doors | | | | | |
| Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate? | | | | | |
| Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate? | | | | | |
| External walls | | | | | |
| Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate? | | | | | |
| Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate? | | | | | |
| Floor | | | | | |
| Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate? | | | | | |
| Ceiling penetrations* | | | | | |
| Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate? | | | | | |
| Ceiling | | | | | |
| Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate? | | | | | |
| Roof | | | | | |
| Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate? | | | | | |
| Apartment entrance doors (NCC Class 2 assessments only) | | | | | |
| 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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected". | | | | | |
| Heating and cooling load limits* | | | | | |
| Do the load limits settings (shown on page 1) match what is shown | | | | | |

| HOUSE |
|-------|

| | Approva | l Stage | Construe Stage | ction | |
|---|------------------|--|-------------------|---------------------------------------|-----------------|
| Certificate check | lecked | thority/ ecked | cked | thority ecked | Other |
| Continued | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |
| Additional NCC requirements for thermal performance (not inclu | uded in tl | he NatHE | RS asse | ssment) | |
| Thermal bridging | | | | | |
| Does the dwelling meet the NCC requirement for thermal bridging? | | | | | |
| Insulation installation method | | | | | |
| Has the insulation been installed according to the NCC requirements? | | | | | |
| Building sealing | | | | | |
| Does the dwelling meet the NCC requirements for Building Sealing? | | | | | |
| Whole of Home performance check (not applicable if a Whole of Hom | e performa | ance asses | ssment is r | not conduc | ted) |
| Appliances | | | | | |
| Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? | | | | | |
| Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate? | | | | | |
| Additional NCC Requirements for Services (not included in the NatHERS assessment) | | | | | |
| Does the lighting meet the artificial lighting requirements specified in the NCC? | | | | | |
| Does the hot water system meet the additional requirements specified in the NCC? | | | | | |
| Provisional values* check | | | | | |
| Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below? | | | | | |
| Other NCC requirements | | | | | |

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

| Room | Zone Type | Area [m ²] |
|-----------------|----------------|------------------------|
| Kitchen/Living1 | Kitchen/Living | 16.52 |
| Bedroom 1 | Bedroom | 5.11 |
| Unconditioned 1 | Unconditioned | 4.54 |

Window and glazed door type and performance

Default windows*

| Window ID | Vindow Maximum e | | SHGC* | Substitution tolerance ranges | | |
|--------------|----------------------|----------|-------|-------------------------------|------------------|--|
| Window ID | Description | U-value* | SHGC | SHGC lower limit | SHGC upper limit | |
| | Aluminium B DG Argon | | | | | |
| ALM-006-03 A | Fill High Solar Gain | 4.1 | 0.52 | 0.49 | 0.55 | |
| | low-E | | | | | |

Custom windows*

| Window ID | Window | ow Maximum SHGC* | | Substitution to | lerance ranges |
|-------------------|-------------|------------------|------|------------------|------------------|
| willdow iD | Description | U-value* | SHGC | SHGC lower limit | SHGC upper limit |
| No Data Available | | | | | |

Window and glazed door schedule

| Location | Window ID | Window no. | Height [mm] | Width [mm] | Window type | Opening % | Orientation | Window shading device* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kitchen/Living1 | ALM-006-03 A | W2 | 1500 | 1800 | Sliding | 45 | SW | No |
| Unconditioned 1 | ALM-006-03 A | W1 | 600 | 1500 | Sliding | 45 | NE | No |

Roof window* type and performance value

Default roof windows*

| Window ID | Window | Maximum | SHGC* | Substitution to | lerance ranges |
|---------------|----------------------|---------|-------|------------------|------------------|
| window iD | Description U-value* | | SHGC | SHGC lower limit | SHGC upper limit |
| No Data Avail | No Data Available | | | | |

Custom roof windows*

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



Roof window* schedule

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

Skylight* type and performance

| Skylight ID | Skylight description | Skylight shaft reflectance |
|-------------|---|----------------------------|
| GEN-04-008a | Double-glazed clear, Timber and Aluminium Frame | 0.5 |

Skylight* schedule

| Location | Skylight ID | Skylight No. | Skylight shaft length [mm] | Area [m ²] | Outdoor shade | Diffuser |
|-----------------|----------------|-----------------|----------------------------------|---------------------------|------------------|----------|
| Unconditioned 1 | GEN-04-008a | S1 | 1000 | 0.39 NE | None | No |

External door schedule

| Location | Height [mm] | Width [mm] | Opening % | Orientation |
|-----------------|-------------|------------|-----------|-------------|
| Kitchen/Living1 | 2040 | 820 | 90 | NE |

External wall type

| Wall | Wall | Solar | Bulk insulation | Reflective |
|------|--|-------------|-------------------------------|------------|
| ID | type | absorptance | [R-value] | wall wrap* |
| EW-1 | Metal Timber Stud Frame Panel on Battens | 0.50 | Bulk Insulation, Air Gap R2.7 | No |

External wall schedule

| Location | Wall ID | Height [mm] | Width [mm] | Orientation | Horizontal shading feature* maximum projection [mm] | Vertical shading feature [yes/no] |
|-----------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Kitchen/Living1 | EW-1 | 2700 | 2200 | SW | 400 | No |
| Kitchen/Living1 | EW-1 | 2700 | 1800 | NE | 1800 | No |
| Bedroom 1 | EW-1 | 2700 | 2000 | SW | 400 | No |
| Unconditioned 1 | EW-1 | 2700 | 2400 | NE | 1800 | No |

Internal wall type

| Wall ID Wall type | | Area [m ²] | Bulk insulation |
|---------------------------------|-------------------------|------------------------|--|
| IW-001 Shaft liner party wall v | vith plaster | 17.28 | Bulk Insulation both sides of shaft liner R2.7 |
| IW-002 Timber Stud Frame, I | Direct Fix Plasterboard | 5.40 | No insulation |

Floor type

| Location | Construction | Area [m²] | Sub-floor ventilation | Added insulation [R-value] | Covering | |
|-----------------|------------------------|--------------|-----------------------|----------------------------------|----------------------------|--|
| Kitaban/Living1 | Waffle pod slab 225 mm | 16.52 | None | Waffle Pod | 60/40 Carpet 10mm/Ceramic | |
| Kitchen/Living1 | 100mm | 10.52 | None | 225mm | 00/40 Carpet Tomin/Ceramic | |
| Podroom 1 | Waffle pod slab 225 mm | 5.11 | None | Waffle Pod | Carpet+Rubber Underlay | |
| Bedroom 1 | 100mm | 5.11 | None | 225mm | 18mm | |
| Unconditioned 1 | Waffle pod slab 225 mm | 4.54 | None | Waffle Pod | Ceramic Tiles 8mm | |
| | 100mm | 4.34 | NULLE | 225mm | | |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* [yes/no] |
|-----------------|-------------------------------|---|------------------------------|
| Kitchen/Living1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Bedroom 1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Unconditioned 1 | Plasterboard on Timber | Bulk Insulation R5 | |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter [mm] | Sealed/unsealed |
|-----------------|----------|--------------|---------------|-----------------|
| Unconditioned 1 | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter [mm] |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation | Solar | Roof shade |
|------------------------------|---|-------------|------------|
| | [R-value] | absorptance | [colour] |
| Corrugated Iron Timber Frame | Bulk+Foil, Reflective Side Down, Anti-glare Up R1.3 | 0.50 | Medium |

Thermal bridging schedule for steel frame elements

| Building element | Steel section dimensions [height x width, mm] | Frame spacing [mm] | Steel thickness [BMT,mm] | Thermal break [R-value] |
|-------------------|--|--------------------|-----------------------------|-------------------------------|
| No Data Available | | | | |



Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system Minimum Recommended Appliance/ system type Location Fuel type efficiency/ capacity performance No Data Available Heating system Minimum Recommended Appliance/ system type Location Fuel type efficiency/ capacity performance No Data Available Hot water system **Zone 3 Substitution** Hot Minimum Assessed Zone 3 Water tolerance ranges daily load Appliance/ system type Fuel type efficiency STC **CER Zone** upper limit /STC lower limit [litres] No Data Available Pool/spa equipment Minimum Recommended Appliance/ system type Fuel type efficiency/ capacity performance No Data Available

Onsite Renewable Energy Schedule

| System Type | Orientation | System Size Or Generation Capacity |
|-------------------|-------------|------------------------------------|
| No Data Available | | |

Battery Schedule

| System Type | Size [Battery Storage Capacity] | |
|-------------------|---------------------------------|--|
| No Data Available | | |



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

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

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

Glossary

| Annual energy lead 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 NAHERS assessment. Note, this may not be consistent with the floor area in the design documents. Ceiling penetrations Exatures that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chinneys and flues. Excludes futures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendent lights, and heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages. Custom windows windows listed in NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. Default windows windows listed in NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. Energy value Energy celliciency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KMD of electricity methods are software and must not be modelled as a door when opening to a minimally wentilation benefits in the modelling software and must not be modelled as a door when opening to a minimally wentilation benefits in the modelling software and must not be modelled as a door when opening to a minimally wentilation below form a catagory – protected Exposure category – open terrain with numerous, closely spaced obstructions alow will (e.g. aboves flows). A weak by a autoration calculations. Exposure category – protected </th <th>AFRC</th> <th>Australian Fenestration Rating Council</th> | AFRC | Australian Fenestration Rating Council |
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| Recommended capacity zone or zone's serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person. 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 attice space, and generally does not have a diffuser. Shading features includes neighbouring buildings, fences, and wing walls, but excludes eaves. 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. 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. Strcs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER) Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes a polystyrene insulation sheeting or plastic strips | Provisional value | a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note |
| foil) insulativé 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 attice space, and generally does not have a diffuser. Shading features includes neighbouring buildings, fences, and wing walls, but excludes eaves. 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. 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. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips | Recommended capacity | zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified |
| Root window space, and generally does not have a diffuser. Shading features includes neighbouring buildings, fences, and wing walls, but excludes eaves. 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. 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. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips | | |
| 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. 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 solat transmits. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips | 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. |
| 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. STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips | | |
| StrCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips | Skylight (also known as roof lights | |
| Choice bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) ⁺ Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips | | subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar |
| as polystyrene insulation sheeting or plastic strips | STCs | bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) |
| Useline the rate of best transfer through a window. The lower the Liveline, the better the insulating ability | Thermal breaks | are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips |
| U-value the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. | 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. | Unconditioned | |
| Vertical shading features provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees) | 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). |
| Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies) | Window shading device | device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies) |

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0011806437

Generated on 24 Mar 2025 using BERS Pro v5.2.4 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 3, 346 Beragoo Rd, GRATTAI , NSW , 2850 Lot 27 DP 255363 1b G of 1 floors New Home

Plans

Main plan Prepared by W Chow Sunrai Designs

Construction and environment

Assessed floor area [m2]*

Conditioned*21.6Unconditioned*4.5Total26.2Garage0.0

Exposure type Open NatHERS climate zone 65 Orange



Accredited assessor

NamemarceBusiness namekihoEmailenerPhone0400Accreditation No.2009Assessor Accrediting OrganisationABSADeclaration of interestDecl

marc kiho kiho building consulting energy_rating@bigpond.com 0400 680 815 20094

Declaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume Two

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

r to glossary

Thermal performance Star rating

The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

109.2 MJ/m²

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 [MJ/m²]

Limits taken from ABCB Standard 2022

| | Heating | Cooling |
|-------------|---------|---------|
| Modelled | 97.3 | 12.0 |
| Load limits | N/A | N/A |

Features determining load limits

| Floor Type | csog |
|---------------------------------|------|
| (lowest conditioned area) | CSUG |
| NCC climate zone 1 or 2 | No |
| Outdoor living area | No |
| Outdoor living area ceiling fan | No |

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

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





Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF)
- NA Not Applicable

NCC Climate Zone 1 or 2:

Yes

No NA – Not Applicable

Outdoor Living Area:

Yes

NO

NA – Not Applicable Outdoor Living Area Ceiling Fan:

Yes

No NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



8.1 Star Rating as of 24 Mar 2025

| | 1 | | | | HOUSE |
|--|------------------|--|-------------------|---------------------------------------|-----------------|
| Certificate check | Approva | I Stage | Construe Stage | ction | |
| The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked. | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |
| Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist. | Assesso | Consent Surveyo | Builder o | Consent Surveyo | Occupar |
| Genuine certificate check | | | | | |
| Does this Certificate match the one available at the web address or QR code verification link on the front page? | | | | | |
| Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate? | | | | | |
| Thermal performance check | | | | | |
| Windows and glazed doors | | | | | |
| Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate? | | | | | |
| Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate? | | | | | |
| External walls | | | | | |
| Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate? | | | | | |
| Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate? | | | | | |
| Floor | | | | | |
| Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate? | | | | | |
| Ceiling penetrations* | | | | | |
| Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate? | | | | | |
| Ceiling | | | | | |
| Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate? | | | | | |
| Roof | | | | | |
| Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate? | | | | | |
| Apartment entrance doors (NCC Class 2 assessments only) | | | | | |
| 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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected". | | | | | |
| Heating and cooling load limits* | | | | | |
| Do the load limits settings (shown on page 1) match what is shown | | | | | |

| HOUSE |
|-------|

| | Approva | l Stage | Construction Stage | | |
|---|------------------|--|-----------------------|---------------------------------------|-----------------|
| Certificate check | lecked | thority/ ecked | cked | thority ecked | Other |
| Continued | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |
| Additional NCC requirements for thermal performance (not inclu | uded in tl | he NatHE | RS asse | ssment) | |
| Thermal bridging | | | | | |
| Does the dwelling meet the NCC requirement for thermal bridging? | | | | | |
| Insulation installation method | | | | | |
| Has the insulation been installed according to the NCC requirements? | | | | | |
| Building sealing | | | | | |
| Does the dwelling meet the NCC requirements for Building Sealing? | | | | | |
| Whole of Home performance check (not applicable if a Whole of Hom | e performa | ance asses | ssment is r | not conduc | ted) |
| Appliances | | | | | |
| Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? | | | | | |
| Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate? | | | | | |
| Additional NCC Requirements for Services (not included in the | NatHERS | assessi | nent) | | |
| Does the lighting meet the artificial lighting requirements specified in the NCC? | | | | | |
| Does the hot water system meet the additional requirements specified in the NCC? | | | | | |
| Provisional values* check | | | | | |
| Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below? | | | | | |
| Other NCC requirements | | | | | |

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

| Room | Zone Type | Area [m ²] |
|-----------------|----------------|------------------------|
| Kitchen/Living1 | Kitchen/Living | 16.52 |
| Bedroom 1 | Bedroom | 5.11 |
| Unconditioned 1 | Unconditioned | 4.54 |

Window and glazed door type and performance

Default windows*

| índow | Maximum | CUCC* | Substitution tolerance ranges | | |
|----------------------------|--|---|--|--|--|
| escription | U-value* | SHGC | SHGC lower limit | SHGC upper limit | |
| luminium B DG Argon | | | | | |
| ill High Solar Gain w-E | 4.1 | 0.52 | 0.49 | 0.55 | |
| e i | escription uminium B DG Argon II High Solar Gain | escription U-value* uminium B DG Argon II High Solar Gain 4.1 | escription U-value* SHGC* uminium B DG Argon II High Solar Gain 4.1 0.52 | escription U-value* SHGC* SHGC lower limit uminium B DG Argon II High Solar Gain 4.1 0.52 0.49 | |

Custom windows*

| Window ID | Window | Maximum | SHGC* - | Substitution tolerance ranges | | |
|----------------|-------------|----------|---------|-------------------------------|------------------|--|
| willdow iD | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit | |
| No Data Availa | able | | | | | |

Window and glazed door schedule

| Location | Window ID | Window no. | Height [mm] | Width [mm] | Window type | Opening % | Orientation | Window shading device* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kitchen/Living1 | ALM-006-03 A | W2 | 1500 | 1800 | Sliding | 45 | SW | No |
| Unconditioned 1 | ALM-006-03 A | W1 | 600 | 1500 | Sliding | 45 | NE | No |

Roof window* type and performance value

Default roof windows*

| Window ID | Window Maximum Description U-value* | | SHGC* - | Substitution tolerance ranges | | |
|-------------------|--|--|---------|-------------------------------|------------------|--|
| window iD | | | 3160 | SHGC lower limit | SHGC upper limit | |
| No Data Available | | | | | | |

Custom roof windows*

| Window ID | Window | | | Substitution tolerance ranges | | |
|-------------------|-------------|--|--|-------------------------------|------------------|--|
| WINGOW ID | Description | | | SHGC lower limit | SHGC upper limit | |
| No Data Available | | | | | | |



Roof window* schedule

| Location | Window ID | Window no. | Opening % | Height [mm] | Width [mm] | Orientation | Outdoor shade | Indoor shade |
|-------------------|--------------|---------------|--------------|----------------|---------------|-------------|------------------|-----------------|
| No Data Available | | | | | | | | |

Skylight* type and performance

| Skylight ID | Skylight description | Skylight shaft reflectance |
|-------------|---|----------------------------|
| GEN-04-008a | Double-glazed clear, Timber and Aluminium Frame | 0.5 |

Skylight* schedule

| Location | Skylight ID | Skylight No. | Skylight shaft length [mm] | Area [m ²] | Outdoor shade | Diffuser |
|-----------------|----------------|-----------------|----------------------------------|---------------------------|------------------|----------|
| Unconditioned 1 | GEN-04-008a | S1 | 1000 | 0.39 NE | None | No |

External door schedule

| Location | Height [mm] | Width [mm] | Opening % | Orientation |
|-----------------|-------------|------------|-----------|-------------|
| Kitchen/Living1 | 2040 | 820 | 90 | NE |

External wall type

| Wall | Wall | Solar | Bulk insulation | Reflective |
|------|--|-------------|-------------------------------|------------|
| ID | type | absorptance | [R-value] | wall wrap* |
| EW-1 | Metal Timber Stud Frame Panel on Battens | 0.50 | Bulk Insulation, Air Gap R2.7 | No |

External wall schedule

| Location | Wall ID | Height [mm] | Width [mm] | Orientation | Horizontal shading feature* maximum projection [mm] | Vertical shading feature [yes/no] |
|-----------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Kitchen/Living1 | EW-1 | 2700 | 2200 | SW | 400 | No |
| Kitchen/Living1 | EW-1 | 2700 | 1800 | NE | 1800 | No |
| Bedroom 1 | EW-1 | 2700 | 2000 | SW | 400 | No |
| Unconditioned 1 | EW-1 | 2700 | 2400 | NE | 1800 | No |

Internal wall type

| Wall ID Wall type | | Area [m ²] | Bulk insulation |
|---------------------------------|-------------------------|------------------------|--|
| IW-001 Shaft liner party wall v | vith plaster | 17.28 | Bulk Insulation both sides of shaft liner R2.7 |
| IW-002 Timber Stud Frame, I | Direct Fix Plasterboard | 5.40 | No insulation |

Floor type

| Location | Construction | Area [m²] | Sub-floor ventilation | Added insulation [R-value] | Covering |
|------------------|------------------------|--------------|-----------------------|----------------------------------|---------------------------|
| Kitobon/Living1 | Waffle pod slab 225 mm | 16.52 | None | Waffle Pod | 60/40 Carpet 10mm/Ceramic |
| Kitchen/Living1 | 100mm | 10.52 | | 225mm | |
| Bedroom 1 | Waffle pod slab 225 mm | 5.11 | Nono | Waffle Pod | Carpet+Rubber Underlay |
| | 100mm | 5.11 | None | 225mm | 18mm |
| Unconditioned 1 | Waffle pod slab 225 mm | 4 5 4 | None | Waffle Pod | Ceramic Tiles 8mm |
| Uncontaitioned 1 | 100mm | 4.54 | | 225mm | |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* [yes/no] |
|-----------------|-------------------------------|---|------------------------------|
| Kitchen/Living1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Bedroom 1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Unconditioned 1 | Plasterboard on Timber | Bulk Insulation R5 | |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter [mm] | Sealed/unsealed |
|-----------------|----------|--------------|---------------|-----------------|
| Unconditioned 1 | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter [mm] |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation | Solar | Roof shade |
|------------------------------|---|-------------|------------|
| | [R-value] | absorptance | [colour] |
| Corrugated Iron Timber Frame | Bulk+Foil, Reflective Side Down, Anti-glare Up R1.3 | 0.50 | Medium |

Thermal bridging schedule for steel frame elements

| Building element | Steel section dimensions [height x width, mm] | Frame spacing [mm] | Steel thickness [BMT,mm] | Thermal break [R-value] |
|-------------------|--|--------------------|-----------------------------|-------------------------------|
| No Data Available | | | | |



Recommended

capacity

Recommended

capacity

upper limit

Recommended

capacity

Assessed

daily load

[litres]

Appliance schedule

Cooling system

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Minimum Appliance/ system type Location Fuel type efficiency/ performance No Data Available Heating system Minimum Appliance/ system type Location Fuel type efficiency/ performance No Data Available Hot water system **Zone 3 Substitution** Hot Minimum Zone 3 Water tolerance ranges Appliance/ system type Fuel type efficiency STC **CER Zone** /STC lower limit No Data Available Pool/spa equipment Minimum Appliance/ system type Fuel type efficiency/ performance

No Data Available

Onsite Renewable Energy Schedule

| System Type | Orientation | System Size Or Generation Capacity |
|-------------------|-------------|------------------------------------|
| No Data Available | | |

Battery Schedule

| System Type | Size [Battery Storage Capacity] | |
|-------------------|---------------------------------|--|
| No Data Available | | |



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

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

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

Glossary

| Annual energy load the p Assessed floor area the floor floor | ralian Fenestration Rating Council redicted amount of energy required for heating and cooling, based on standard occupancy assumptions. loor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the |
|--|--|
| Assessed floor area the floor | loor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the |
| Assessed noor area floor | |
| Coiling popetrations Evolu | area in the design documents. |
| Ceiling penetrations Exclu- heati | irres that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. udes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and ing and cooling ducts. |
| | ficient of performance |
| Conditioned a zor circuit | ne within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some mstances it will include garages. |
| | ows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating eme) rating. |
| Default windows windows meth | ows that are representative of a specific type of window product and whose properties have been derived by statistical nods. |
| EER Energy input | gy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity |
| Energy use This | is your homes rating without solar or batteries. |
| Energy value The r define | net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as ed in the ABCB Housing Provisions Standard). |
| Entrance door these ventil | e signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally lated corridor in a Class 2 building. |
| Exposure see e | exposure categories below. |
| | in with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). |
| Exposure category – open terrai scatte | in with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with ered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors). |
| Exposure category – protected terrai | in with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas. |
| Exposure category – suburban terrai | in with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas. |
| Horizontal shading feature provi | ides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies upper levels. |
| National Construction Code the N (NCC) Class Class | ICC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC s 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au. |
| Net zero home a hor | me that achieves a net zero energy value*. |
| | penability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. |
| Provisional value a pro | ssumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, ovisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note can be found at www.nathers.gov.au |
| Recommended capacity this is zone person | s the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified on. |
| | be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides ative properties. |
| Roof window for Naspace | latHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic e, and generally does not have a diffuser. |
| Shading features inclue | des neighbouring buildings, fences, and wing walls, but excludes eaves. |
| | atHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level. |
| subs | raction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and equently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar it transmits. |
| boug | Il-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be Iht and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) |
| Thermal breaks as po | naterials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, s not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such bystyrene insulation sheeting or plastic strips |
| U-value the ra | ate of heat transfer through a window. The lower the U-value, the better the insulating ability. |
| | ne within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. |
| Vertical shading features proving river | ides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes icy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees). |
| Window shading device device feature | e fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading ires* (eg eaves and balconies) |

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0011806460

Generated on 24 Mar 2025 using BERS Pro v5.2.4 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 4, 346 Beragoo Rd, GRATTAI , NSW , 2850 Lot 27 DP 255363 1b G of 1 floors New Home

Plans

Main plan Prepared by W Chow Sunrai Designs

Construction and environment

Assessed floor area [m2]*

Conditioned* 21.6 Unconditioned* 4.5 Total 26.2 Garage 0.0 Exposure type Open NatHERS climate zone 65 Orange



Accredited assessor

 Name
 marc kiho

 Business name
 kiho building consulting

 Email
 energy_rating@bigpond.com

 Phone
 0400 680 815

 Accreditation No.
 20094

 Assessor Accrediting Organisation

 ABSA

 Declaration of interest
 Declaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation (ił

Volume Two

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

109.2 MJ/m²

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 [MJ/m²]

Limits taken from ABCB Standard 2022

| | Heating | Cooling |
|------------|---------|---------|
| lodelled | 97.3 | 12.0 |
| oad limits | N/A | N/A |

Features determining load limits

N

1.

| Floor Type (lowest conditioned area) | csog |
|---|------|
| NCC climate zone 1 or 2 | No |
| Outdoor living area | No |
| Outdoor living area ceiling fan | No |
| | |

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

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



* Refer to glossary Generated on 24 Mar 2025 using BERS Pro v5.2.4 (3.23) for Unit 4, 346 Beragoo Rd , GRATTAI , NSW , 2850



Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG - Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA - Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



8.1 Star Rating as of 24 Mar 2025

| Certificate check | Approva | I Stage | Construe Stage | KALIOSYMUL | |
|--|------------------|--|-------------------|--|-----------------|
| The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked. | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |
| Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist. | Asses | Conse Surve) | Builde | Conse Survey | Occup |
| Genuine certificate check | | л | л | | |
| Does this Certificate match the one available at the web address or QR code verification link on the front page? | | | | | |
| Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate? | | | | | |
| Thermal performance check | | | | | |
| Windows and glazed doors | | | | | |
| Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate? | | | | | |
| Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate? | | | | | |
| External walls | | | | | |
| Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate? | | | | | |
| Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate? | | | | | |
| Floor | | | | | |
| Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate? | | | | | |
| Ceiling penetrations* | | | | | |
| Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate? | | | | | |
| Ceiling | | | | | |
| Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate? | | | | | |
| Roof | | | | | |
| Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate? | | | | | |
| Apartment entrance doors (NCC Class 2 assessments only) | | | | | |
| 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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected". | | | | | |
| Heating and cooling load limits* | | | | | |
| Do the load limits settings (shown on page 1) match what is shown | | | | | |

| HOUSE |
|-------|

| | Approval Stage | | Construction Stage | | |
|---|------------------|--|-----------------------|---------------------------------------|-----------------|
| Certificate check | lecked | thority/ ecked | cked | thority ecked | Other |
| Continued | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |
| Additional NCC requirements for thermal performance (not inclu | uded in tl | he NatHE | RS asse | ssment) | |
| Thermal bridging | | | | | |
| Does the dwelling meet the NCC requirement for thermal bridging? | | | | | |
| Insulation installation method | | | | | |
| Has the insulation been installed according to the NCC requirements? | | | | | |
| Building sealing | | | | | |
| Does the dwelling meet the NCC requirements for Building Sealing? | | | | | |
| Whole of Home performance check (not applicable if a Whole of Hom | e performa | ance asses | ssment is r | not conduc | ted) |
| Appliances | | | | | |
| Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? | | | | | |
| Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate? | | | | | |
| Additional NCC Requirements for Services (not included in the | NatHERS | assessi | nent) | | |
| Does the lighting meet the artificial lighting requirements specified in the NCC? | | | | | |
| Does the hot water system meet the additional requirements specified in the NCC? | | | | | |
| Provisional values* check | | | | | |
| Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below? | | | | | |
| Other NCC requirements | | | | | |

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

| Room | Zone Type | Area [m ²] |
|-----------------|----------------|------------------------|
| Kitchen/Living1 | Kitchen/Living | 16.52 |
| Bedroom 1 | Bedroom | 5.11 |
| Unconditioned 1 | Unconditioned | 4.54 |

Window and glazed door type and performance

Default windows*

| índow | Maximum | | Substitution tolerance ranges | | |
|----------------------------|--|---|--|--|--|
| escription | U-value* | SHGC | SHGC lower limit | SHGC upper limit | |
| luminium B DG Argon | | | | | |
| ill High Solar Gain w-E | 4.1 | 0.52 | 0.49 | 0.55 | |
| e i | escription uminium B DG Argon II High Solar Gain | escription U-value* uminium B DG Argon II High Solar Gain 4.1 | escription U-value* SHGC* uminium B DG Argon II High Solar Gain 4.1 0.52 | escription U-value* SHGC* SHGC lower limit uminium B DG Argon II High Solar Gain 4.1 0.52 0.49 | |

Custom windows*

| Window ID | Window Maximum | | SHGC* - | Substitution tolerance ranges | | |
|----------------|----------------|----------|---------|-------------------------------|------------------|--|
| | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit | |
| No Data Availa | able | | | | | |

Window and glazed door schedule

| Location | Window ID | Window no. | Height [mm] | Width [mm] | Window type | Opening % | Orientation | Window shading device* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kitchen/Living1 | ALM-006-03 A | W2 | 1500 | 1800 | Sliding | 45 | SW | No |
| Unconditioned 1 | ALM-006-03 A | W1 | 600 | 1500 | Sliding | 45 | NE | No |

Roof window* type and performance value

Default roof windows*

| Window ID | Window Max | Maximum | SHGC* | Substitution tolerance ranges | | |
|---------------|-------------|----------|-------|-------------------------------|------------------|--|
| | Description | U-value* | SHOC | SHGC lower limit | SHGC upper limit | |
| No Data Avail | able | | | | | |

Custom roof windows*

| Window ID | Window | ow Maximum _{SH} | | Substitution tolerance ranges | | |
|-------------------|----------------------|--------------------------|------------------|-------------------------------|--|--|
| | Description U-value* | SHGC* | SHGC lower limit | SHGC upper limit | | |
| No Data Available | | | | | | |



Roof window* schedule

| Location | Window ID | Window no. | Opening % | Height [mm] | Width [mm] | Orientation | Outdoor shade | Indoor shade |
|-------------------|--------------|---------------|--------------|----------------|---------------|-------------|------------------|-----------------|
| No Data Available | | | | | | | | |

Skylight* type and performance

| Skylight ID | Skylight description | Skylight shaft reflectance |
|-------------|---|----------------------------|
| GEN-04-008a | Double-glazed clear, Timber and Aluminium Frame | 0.5 |

Skylight* schedule

| Location | Skylight ID | Skylight No. | Skylight shaft length [mm] | Area [m ²] | Outdoor shade | Diffuser |
|-----------------|----------------|-----------------|----------------------------------|---------------------------|------------------|----------|
| Unconditioned 1 | GEN-04-008a | S1 | 1000 | 0.39 NE | None | No |

External door schedule

| Location | Height [mm] | Width [mm] | Opening % | Orientation |
|-----------------|-------------|------------|-----------|-------------|
| Kitchen/Living1 | 2040 | 820 | 90 | NE |

External wall type

| Wall | Wall | Solar | Bulk insulation | Reflective |
|------|--|-------------|-------------------------------|------------|
| ID | type | absorptance | [R-value] | wall wrap* |
| EW-1 | Metal Timber Stud Frame Panel on Battens | 0.50 | Bulk Insulation, Air Gap R2.7 | No |

External wall schedule

| Location | Wall ID | Height [mm] | Width [mm] | Orientation | Horizontal shading feature* maximum projection [mm] | Vertical shading feature [yes/no] |
|-----------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Kitchen/Living1 | EW-1 | 2700 | 2200 | SW | 400 | No |
| Kitchen/Living1 | EW-1 | 2700 | 1800 | NE | 1800 | No |
| Bedroom 1 | EW-1 | 2700 | 2000 | SW | 400 | No |
| Unconditioned 1 | EW-1 | 2700 | 2400 | NE | 1800 | No |

Internal wall type

| Wall ID Wall type | | Area [m ²] | Bulk insulation |
|---------------------------------|-------------------------|------------------------|--|
| IW-001 Shaft liner party wall v | vith plaster | 17.28 | Bulk Insulation both sides of shaft liner R2.7 |
| IW-002 Timber Stud Frame, I | Direct Fix Plasterboard | 5.40 | No insulation |

Floor type

| Location | Construction | Area [m²] | Sub-floor ventilation | Added insulation [R-value] | Covering |
|-----------------|------------------------|--------------|-----------------------|----------------------------------|---------------------------|
| Kitaban/Living1 | Waffle pod slab 225 mm | 16.52 | None | Waffle Pod | 60/40 Carpet 10mm/Ceramic |
| Kitchen/Living1 | 100mm | 10.52 | | 225mm | 00/40 Carpet Tomm/Ceramic |
| Bedroom 1 | Waffle pod slab 225 mm | 5.11 | None | Waffle Pod | Carpet+Rubber Underlay |
| | 100mm | 5.11 | None | 225mm | 18mm |
| Unconditioned 1 | Waffle pod slab 225 mm | 4.54 | None | Waffle Pod | Ceramic Tiles 8mm |
| | 100mm | 4.34 | NULLE | 225mm | |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* [yes/no] |
|-----------------|-------------------------------|---|------------------------------|
| Kitchen/Living1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Bedroom 1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Unconditioned 1 | Plasterboard on Timber | Bulk Insulation R5 | |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter [mm] | Sealed/unsealed |
|-----------------|----------|--------------|---------------|-----------------|
| Unconditioned 1 | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter [mm] |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation | Solar | Roof shade |
|------------------------------|---|-------------|------------|
| | [R-value] | absorptance | [colour] |
| Corrugated Iron Timber Frame | Bulk+Foil, Reflective Side Down, Anti-glare Up R1.3 | 0.50 | Medium |

Thermal bridging schedule for steel frame elements

| Building element | Steel section dimensions [height x width, mm] | Frame spacing [mm] | Steel thickness [BMT,mm] | Thermal break [R-value] |
|-------------------|--|--------------------|-----------------------------|-------------------------------|
| No Data Available | | | | |



Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system Minimum Recommended Appliance/ system type Location Fuel type efficiency/ capacity performance No Data Available Heating system Minimum Recommended Appliance/ system type Location Fuel type efficiency/ capacity performance No Data Available Hot water system **Zone 3 Substitution** Hot Minimum Assessed Zone 3 Water tolerance ranges daily load Appliance/ system type Fuel type efficiency STC **CER Zone** upper limit /STC lower limit [litres] No Data Available Pool/spa equipment Minimum Recommended Appliance/ system type Fuel type efficiency/ capacity performance No Data Available

Onsite Renewable Energy Schedule

| System Type | Orientation | System Size Or Generation Capacity |
|-------------------|-------------|------------------------------------|
| No Data Available | | |

Battery Schedule

| System Type | Size [Battery Storage Capacity] | |
|-------------------|---------------------------------|--|
| No Data Available | | |



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

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

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

Glossary

| Annual energy load the p Assessed floor area the floor floor | ralian Fenestration Rating Council redicted amount of energy required for heating and cooling, based on standard occupancy assumptions. loor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the |
|--|--|
| Assessed floor area the floor | loor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the |
| Assessed noor area floor | |
| Coiling popetrations Evolu | area in the design documents. |
| Ceiling penetrations Exclu- heati | irres that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. udes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and ing and cooling ducts. |
| | ficient of performance |
| Conditioned a zor circuit | ne within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some mstances it will include garages. |
| | ows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating eme) rating. |
| Default windows windows meth | ows that are representative of a specific type of window product and whose properties have been derived by statistical nods. |
| EER Energy input | gy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity |
| Energy use This | is your homes rating without solar or batteries. |
| Energy value The r define | net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as ed in the ABCB Housing Provisions Standard). |
| Entrance door these ventil | e signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally lated corridor in a Class 2 building. |
| Exposure see e | exposure categories below. |
| | in with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). |
| Exposure category – open terrai scatte | in with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with ered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors). |
| Exposure category – protected terrai | in with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas. |
| Exposure category – suburban terrai | in with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas. |
| Horizontal shading feature provi | ides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies upper levels. |
| National Construction Code the N (NCC) Class Class | ICC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC s 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au. |
| Net zero home a hor | me that achieves a net zero energy value*. |
| | penability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. |
| Provisional value a pro | ssumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, ovisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note can be found at www.nathers.gov.au |
| Recommended capacity this is zone person | s the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified on. |
| | be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides ative properties. |
| Roof window for Naspace | latHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic e, and generally does not have a diffuser. |
| Shading features inclue | des neighbouring buildings, fences, and wing walls, but excludes eaves. |
| | atHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level. |
| subs | raction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and equently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar it transmits. |
| boug | Il-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be Iht and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) |
| Thermal breaks as po | naterials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, s not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such bystyrene insulation sheeting or plastic strips |
| U-value the ra | ate of heat transfer through a window. The lower the U-value, the better the insulating ability. |
| | ne within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. |
| Vertical shading features proving river | ides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes icy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees). |
| Window shading device device feature | e fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading ires* (eg eaves and balconies) |

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0011806445

Generated on 24 Mar 2025 using BERS Pro v5.2.4 (3.23)

Property

Address

Lot/DP NCC class' Floor/all Floors Type

Unit 5, 346 Beragoo Rd, GRATTAL, NSW, 2850 Lot 27 DP 255363 1b G of 1 floors New Home

Plans

Main plan Prepared by W Chow Sunrai Designs

Construction and environment

Assessed floor area [m2]*

Conditioned* 21.6 Unconditioned* 4.5 26.2 Total Garage 0.0

Exposure type Open NatHERS climate zone 65 Orange



Accredited assessor

marc kiho Name **Business name** Email Phone Accreditation No. 20094 Assessor Accrediting Organisation ABSA Declaration of interest

NCC Requirements

NCC provisions Strate/Territory variation kiho building consulting energy_rating@bigpond.com 0400 680 815

Declaration completed: no conflicts

Volume Two

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

NATIONWIDE

109.2 MJ/m²

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 [MJ/m²]

Limits taken from ABCB Standard 2022

| | Heating | Cooling | | |
|------------|---------|---------|--|--|
| lodelled | 97.3 | 12.0 | | |
| oad limits | N/A | N/A | | |

Features determining load limits

N

L

| Floor Type (lowest conditioned area) | csog |
|---|------|
| NCC climate zone 1 or 2 | No |
| Outdoor living area | No |
| Outdoor living area ceiling fan | No |

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

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





Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG - Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



8.1 Star Rating as of 24 Mar 2025

| Certificate check | Approva | I Stage | Construe Stage | ction | HOUNDE |
|--|------------------|--|-------------------|---------------------------------------|-----------------|
| The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked. | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |
| Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist. | Assess | Consen Survey | Builder | Consen Survey | Occupa |
| Genuine certificate check | | | | | |
| Does this Certificate match the one available at the web address or QR code verification link on the front page? | | | | | |
| Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate? | | | | | |
| Thermal performance check | | | | | |
| Windows and glazed doors | | | | | |
| Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate? | | | | | |
| Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate? | | | | | |
| External walls | | | | | |
| Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate? | | | | | |
| Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate? | | | | | |
| Floor | | | | | |
| Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate? | | | | | |
| Ceiling penetrations* | | | | | |
| Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate? | | | | | |
| Ceiling | | | | | |
| Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate? | | | | | |
| Roof | | | | | |
| Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate? | | | | | |
| Apartment entrance doors (NCC Class 2 assessments only) | | | | | |
| 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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected". | | | | | |
| Heating and cooling load limits* | | | | | |
| Do the load limits settings (shown on page 1) match what is shown | | | | | |

| HOUSE |
|-------|

| | Approva | l Stage | Construction Stage | | |
|---|------------------|--|-----------------------|---------------------------------------|-----------------|
| Certificate check | lecked | thority/ ecked | cked | thority ecked | Other |
| Continued | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |
| Additional NCC requirements for thermal performance (not inclu | uded in tl | he NatHE | RS asse | ssment) | |
| Thermal bridging | | | | | |
| Does the dwelling meet the NCC requirement for thermal bridging? | | | | | |
| Insulation installation method | | | | | |
| Has the insulation been installed according to the NCC requirements? | | | | | |
| Building sealing | | | | | |
| Does the dwelling meet the NCC requirements for Building Sealing? | | | | | |
| Whole of Home performance check (not applicable if a Whole of Hom | e performa | ance asses | ssment is r | not conduc | ted) |
| Appliances | | | | | |
| Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? | | | | | |
| Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | |
| Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate? | | | | | |
| Additional NCC Requirements for Services (not included in the | NatHERS | assessi | nent) | | |
| Does the lighting meet the artificial lighting requirements specified in the NCC? | | | | | |
| Does the hot water system meet the additional requirements specified in the NCC? | | | | | |
| Provisional values* check | | | | | |
| Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below? | | | | | |
| Other NCC requirements | | | | | |

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

| Room | Zone Type | Area [m ²] |
|-----------------|----------------|------------------------|
| Kitchen/Living1 | Kitchen/Living | 16.52 |
| Bedroom 1 | Bedroom | 5.11 |
| Unconditioned 1 | Unconditioned | 4.54 |

Window and glazed door type and performance

Default windows*

| índow | Maximum | SUCC* | Substitution tolerance ranges | | |
|----------------------------|--|---|--|--|--|
| escription | U-value* | SHGC | SHGC lower limit | SHGC upper limit | |
| luminium B DG Argon | | | | | |
| ill High Solar Gain w-E | 4.1 | 0.52 | 0.49 | 0.55 | |
| e i | escription uminium B DG Argon II High Solar Gain | escription U-value* uminium B DG Argon II High Solar Gain 4.1 | escription U-value* SHGC* uminium B DG Argon II High Solar Gain 4.1 0.52 | escription U-value* SHGC* SHGC lower limit uminium B DG Argon II High Solar Gain 4.1 0.52 0.49 | |

Custom windows*

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|-------------------|-------------|----------|-------|-------------------------------|------------------|--|
| willdow iD | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit | |
| No Data Available | | | | | | |

Window and glazed door schedule

| Location | Window ID | Window no. | Height [mm] | Width [mm] | Window type | Opening % | Orientation | Window shading device* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kitchen/Living1 | ALM-006-03 A | W2 | 1500 | 1800 | Sliding | 45 | SW | No |
| Unconditioned 1 | ALM-006-03 A | W1 | 600 | 1500 | Sliding | 45 | NE | No |

Roof window* type and performance value

Default roof windows*

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

Custom roof windows*

| Window ID | Window | Maximum | SHGC* - | Substitution tolerance ranges | | |
|-------------------|-------------|----------|---------|-------------------------------|------------------|--|
| WINGOW ID | Description | U-value* | 31160 | SHGC lower limit | SHGC upper limit | |
| No Data Available | | | | | | |



Roof window* schedule

| Location | Window ID | Window no. | Opening % | Height [mm] | Width [mm] | Orientation | Outdoor shade | Indoor shade |
|-------------------|--------------|---------------|--------------|----------------|---------------|-------------|------------------|-----------------|
| No Data Available | | | | | | | | |

Skylight* type and performance

| Skylight ID | Skylight description | Skylight shaft reflectance |
|-------------|---|----------------------------|
| GEN-04-008a | Double-glazed clear, Timber and Aluminium Frame | 0.5 |

Skylight* schedule

| Location | Skylight ID | Skylight No. | Skylight shaft length [mm] | Area [m ²] | Outdoor shade | Diffuser |
|-----------------|----------------|-----------------|----------------------------------|---------------------------|------------------|----------|
| Unconditioned 1 | GEN-04-008a | S1 | 1000 | 0.39 NE | None | No |

External door schedule

| Location | Height [mm] | Width [mm] | Opening % | Orientation |
|-----------------|-------------|------------|-----------|-------------|
| Kitchen/Living1 | 2040 | 820 | 90 | NE |

External wall type

| Wall | Wall | Solar | Bulk insulation | Reflective |
|------|--|-------------|-------------------------------|------------|
| ID | type | absorptance | [R-value] | wall wrap* |
| EW-1 | Metal Timber Stud Frame Panel on Battens | 0.50 | Bulk Insulation, Air Gap R2.7 | No |

External wall schedule

| Location | Wall ID | Height [mm] | Width [mm] | Orientation | Horizontal shading feature* maximum projection [mm] | Vertical shading feature [yes/no] |
|-----------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Kitchen/Living1 | EW-1 | 2700 | 2200 | SW | 400 | No |
| Kitchen/Living1 | EW-1 | 2700 | 1800 | NE | 1800 | No |
| Bedroom 1 | EW-1 | 2700 | 2000 | SW | 400 | No |
| Unconditioned 1 | EW-1 | 2700 | 2400 | NE | 1800 | No |

Internal wall type

| Wall ID Wall type | | Area [m ²] | Bulk insulation |
|---------------------------------|-------------------------|------------------------|--|
| IW-001 Shaft liner party wall v | vith plaster | 17.28 | Bulk Insulation both sides of shaft liner R2.7 |
| IW-002 Timber Stud Frame, I | Direct Fix Plasterboard | 5.40 | No insulation |

Floor type

| Location | Construction | Area [m²] | Sub-floor ventilation | Added insulation [R-value] | Covering |
|-----------------|------------------------|--------------|-----------------------|----------------------------------|---------------------------|
| Kitchon/Living1 | Waffle pod slab 225 mm | 16.52 | None | Waffle Pod | 60/40 Carpet 10mm/Ceramic |
| Kitchen/Living1 | 100mm | 10.52 | | 225mm | |
| Bedroom 1 | Waffle pod slab 225 mm | 5.11 None | Nene | Waffle Pod | Carpet+Rubber Underlay |
| | 100mm | | None | 225mm | 18mm |
| Unconditioned 1 | Waffle pod slab 225 mm | 4.54 | None | Waffle Pod | Ceramic Tiles 8mm |
| Onconditioned | 100mm | 4.04 | NONE | 225mm | |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* [yes/no] |
|-----------------|-------------------------------|---|------------------------------|
| Kitchen/Living1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Bedroom 1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Unconditioned 1 | Plasterboard on Timber | Bulk Insulation R5 | |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter [mm] | Sealed/unsealed |
|-----------------|----------|--------------|---------------|-----------------|
| Unconditioned 1 | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter [mm] |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation | Solar | Roof shade |
|------------------------------|---|-------------|------------|
| | [R-value] | absorptance | [colour] |
| Corrugated Iron Timber Frame | Bulk+Foil, Reflective Side Down, Anti-glare Up R1.3 | 0.50 | Medium |

Thermal bridging schedule for steel frame elements

| Building element | Steel section dimensions [height x width, mm] | Frame spacing [mm] | Steel thickness [BMT,mm] | Thermal break [R-value] |
|-------------------|--|--------------------|-----------------------------|-------------------------------|
| No Data Available | | | | |



[litres]

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system Minimum Recommended Appliance/ system type Location Fuel type efficiency/ capacity performance No Data Available Heating system Minimum Recommended Appliance/ system type Location Fuel type efficiency/ capacity performance No Data Available Hot water system **Zone 3 Substitution** Hot Minimum Assessed Zone 3 Water tolerance ranges daily load Appliance/ system type Fuel type efficiency STC **CER Zone** upper limit /STC lower limit No Data Available Pool/spa equipment Minimum Recommended Appliance/ system type Fuel type efficiency/ capacity performance No Data Available

Onsite Renewable Energy Schedule

| System Type | Orientation | System Size Or Generation Capacity |
|-------------------|-------------|------------------------------------|
| No Data Available | | |

Battery Schedule

| System Type | Size [Battery Storage Capacity] | |
|-------------------|---------------------------------|--|
| No Data Available | | |



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

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

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

Glossary

| Annual energy lead 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 NAHERS assessment. Note, this may not be consistent with the floor area in the design documents. Ceiling penetrations Exatures that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chinneys and flues. Excludes futures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendent lights, and heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages. Custom windows windows listed in NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. Default windows windows listed in NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating. Energy value Energy celliciency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KMD of electricity methods are software and must not be modelled as a door when opening to a minimally wentilation benefits in the modelling software and must not be modelled as a door when opening to a minimally wentilation benefits in the modelling software and must not be modelled as a door when opening to a minimally wentilation below form a catagory – protected Exposure category – open terrain with numerous, closely spaced obstructions alow will (e.g. aboves flows). A weak by a autoration calculations. Exposure category – protected </th <th>AFRC</th> <th>Australian Fenestration Rating Council</th> | AFRC | Australian Fenestration Rating Council |
|---|-------------------------------------|--|
| Assessed floor area the floor area modeled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents. Celling penetrations features that require a penetration to the celling, including downlights, vents, exhaust fans, range hoods, chinneys and flues. COP Coefficient of performance. Coefficient of performance. Conditioned arcumstances it will include garages. Custom windows Windows fluet NathERS offware that are expresentative of a specific type of window product and whose properties have been derived by statistical models. Default windows Windows fluet are representative of a specific type of window product and whose properties have been derived by statistical models. Energy value The rept cost to society including, but not imited to, costs to the building user, the environment and energy networks (as the segory – exposed Exposure see exposure category is poly wentiation beneffs in the modeling of ware 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, cocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – suburban terrain with row obstructions e.g. flat grazing land, cocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – suburban <th< th=""><th></th><th></th></th<> | | |
| Coop Conditioned 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 NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) relating. Default windows windows that are representative of a specific type of window product and whose properties have been derived by stallstical models. EER Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input Energy value The is your homes rating without solar or batteries. Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Exposure category – expose see exposure categories below. Exposure category – open terrain with no obstructions e.g. fit grazing land, cocen-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – protected terrain with numerous, closely spaced obstructions below 10m e.g. uby and industrial areas. Exposure category – protected terrain with numerous, closely spaced obstructions below 10m e.g. uby and industrial areas. Exposure category – protected terrain with numerous, closely spaced obstructions be form undwatbe, | | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the |
| COP Coefficient of performance Conditioned a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some droumstances it will include garages. Custom windows windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. Default windows windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. EER Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input? Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). Exposure as exposure category – exposed terrain with no obstructions e.g. flargzing land, cocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – open terrain with no obstructions e.g. flargzing land, cocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – open terrain with no obstructions e.g. flargzing land, cocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – protected terrain with no obstructions e.g. flargzing land, cocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – protected | Ceiling penetrations | features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and |
| Continuine 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. EER Energy USE This is your homes rating without solar or batteries. Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the AECB Mousing Provisions Standard). Entrace door these signify vertilation benefits in the modeling software and must not be modelled as a door when opening to a minimally Exposure Exposure see 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 numerous, closely spaced obstructions over 10 m e.g. suburban housing, heavily vegetated bushland areas. Horizontal shading feature provides shading to the building in the hold constructions over 10 m e.g. suburban housing, heavily vegetated bushland areas. Net zors A.g. or 4 buildings by their incerton and uses and assigns a classification code. Net zors A.g. or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au. | COP | |
| Clustorie Scheme) rating. Clustorie Default windows windows that are representative of a specific type of window product and whose properties have been derived by statistical methods. EER Energy Use This is your homes rating without solar or batteries. Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard). Entrance door these signify wentilation benefits in the modeling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building. Exposure category – open 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 numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegtated bushland areas. Exposure category – suburban terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegtated bushland areas. Exposure category – suburban provides shading to the building in the horizonial plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies. NucCi Class 10m e.g. clivand industrial areas. Exposure category – suburban earas and the dClass 10a buildings. Definitions can be found at www.abc.gov.au. Nuci classof a clivand and the cos | 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. |
| Default windows methods. EER Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input Energy use This is your homes rating without solar or batteries. Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). 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 distructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors). Exposure category – protected terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas. Exposure category – suburban terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas. Not2col class provides shading to the building in the horizontal plane, e.g. eaves, vernadahs, pergolas, carports, or overhangs or balconies from tupel: the does not represent an actual value, For example, if the wall colour is unspecified in the documentator a provisional value or medulum must be modelled. Acceptable provisional values are outlined in the NatHERS technical Note and can be found at www.nathers.gov.au Net zero home a home that achieves a net zero energy value ^c . Openning pe | Custom windows | |
| ELK input" Energy use This is your homes rating without solar or batteries. Energy value The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions) Standard). 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 no 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 – protected terrain with numerous, closely spaced obstructions below 10m 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. Net zero home a home that achieves a net zero energy value. Provisional value an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation or a provisional value. Reflective wrap (also known as for lights) for NathERS this is typically an operable (window (i.e. can be opened), will have a plast | Default windows | |
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| as polystyrene insulation sheeting or plastic strips | STCs | bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) |
| Useline the rate of best transfer through a window. The lower the Liveline, the better the insulating ability | Thermal breaks | are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips |
| U-value the rate of heat transfer through a window. The lower the U-value, the better the insulating ability. | 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. | Unconditioned | |
| Vertical shading features provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees) | 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). |
| Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies) | Window shading device | device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies) |

Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. 0011806452

Generated on 24 Mar 2025 using BERS Pro v5.2.4 (3.23)

Property

Address

Lot/DP NCC class* Floor/all Floors Type Unit 6, 346 Beragoo Rd, GRATTAI , NSW , 2850 Lot 27 DP 255363 1b G of 1 floors New Home

Plans

Main plan Prepared by W Chow Sunrai Designs

Construction and environment

Assessed floor area [m2]*

Conditioned*24.8Unconditioned*6.4Total31.2Garage0.0

Exposure type Open NatHERS climate zone 65 Orange



Accredited assessor

 Name
 marc kiho

 Business name
 kiho building consulting

 Email
 energy_rating@bigpond.com

 Phone
 0400 680 815

 Accreditation No.
 20094

 Assessor Accrediting Organisation
 ABSA

 Declaration of interest
 Declaration completed: no conflicts

C I E O

NCC provisions Strate/Territory variation

NCC Requirements

Valuma Tur

Volume Two

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

NATIONWIDE HOUSE ENERGY RATING SCHEME

139.0 MJ/m²

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 [MJ/m²]

Limits taken from ABCB Standard 2022

| | Heating | Cooling |
|------------|---------|---------|
| lodelled | 129.8 | 9.1 |
| oad limits | N/A | N/A |

Features determining load limits

N

| Floor Type (lowest conditioned area) | csog |
|---|------|
| NCC climate zone 1 or 2 | No |
| Outdoor living area | No |
| Outdoor living area ceiling fan | No |

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

Verification

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





Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting Options:

Floor Type:

CSOG - Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Energy use



Greenhouse gas emissions



Cost



7.4 Star Rating as of 24 Mar 2025

| Certificate check | Approva | I Stage | Construe Stage | KALIOSYMUL | |
|--|------------------|--|-------------------|--|-----------------|
| The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked. | Assessor checked | Consent Authority/ Surveyor checked | Builder checked | Consent Authority Surveyor checked | Occupancy/Other |
| Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist. | Asses | Conse Surve) | Builde | Conse Survey | Occup |
| Genuine certificate check | | л | л | | |
| Does this Certificate match the one available at the web address or QR code verification link on the front page? | | | | | |
| Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate? | | | | | |
| Thermal performance check | | | | | |
| Windows and glazed doors | | | | | |
| Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate? | | | | | |
| Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate? | | | | | |
| External walls | | | | | |
| Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate? | | | | | |
| Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate? | | | | | |
| Floor | | | | | |
| Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate? | | | | | |
| Ceiling penetrations* | | | | | |
| Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate? | | | | | |
| Ceiling | | | | | |
| Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate? | | | | | |
| Roof | | | | | |
| Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate? | | | | | |
| Apartment entrance doors (NCC Class 2 assessments only) | | | | | |
| 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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected". | | | | | |
| Heating and cooling load limits* | | | | | |
| Do the load limits settings (shown on page 1) match what is shown | | | | | |

7.4 Star Rating as of 24 Mar 2025

| pa | 1 | | | |
|--------------|------------------------------|------------------------------|--|--|
| eck | vuthority checked | ked | uthority hecked |)ther |
| Assessor che | Consent Auth Surveyor che | Builder checl | Consent Auth Surveyor che | Occupancy/C |
| | Assessor | Assessor chu Consent Auth | Assessor chu Consent Auth Surveyor che Builder chec | essor chu sent Auti eyor che der chec der chec |

Additional NCC requirements for thermal performance (not included in the NatHERS assessment)

| Insulation installation method Has the insulation been installed according to the NCC requirements? Building sealing Does the dwelling meet the NCC requirements for Building Sealing? Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted) Appliances Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? Does the hot water system type and efficiency/performance schedule on this Certificate? Does the to cool pump efficiency/performance schedule on this Certificate? Does the pool pump efficiency/performance requirements shown in the 'Appliance schedule' on this certificate? Does the only must ficiency/performance requirements shown in the 'Appliance schedule' on this certificate? Does the only must ficiency/performance requirements shown in the 'Appliance schedule' on this certificate? Does the only must ficiency/performance requirements shown in the 'Appliance schedule' on this certificate? Does the only must ficiency/performance requirements shown in the 'Appliance schedule' on this certificate? Does the only the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this certificate? Does the only must ficiency/performance requirements shown in the 'Appliance schedule' on this certificate? Does the only the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this certificate? Does the only the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this certificate? Does the only the minimum efficiency/performance requirements shown in the 'Appliance schedule' | Thermal bridging | | | | | | | |
|--|---|---------|---------|-------|--|--|--|--|
| Has the insulation been installed according to the NCC requirements? | Does the dwelling meet the NCC requirement for thermal bridging? | | | | | | | |
| Building sealing Does the dwelling meet the NCC requirements for Building Sealing? Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted) Appliances Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the onsile renewable energy system type, orientation and system size or generation capacity hown on the NatHERS stamped plans or installed match the cortificate? Additional NCC Requirements for Services (not included in the NatHERS assessment) Does the lighting meet the artificial lighting requirement | Insulation installation method | | | | | | | |
| Does the dwelling meet the NCC requirements for Building Sealing? | Has the insulation been installed according to the NCC requirements? | | | | | | | |
| Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted) Appliances Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and system size or generation capacity shown on the NatHERS stamped plans or installed match the ordificate? Does the pool pump efficiency/performance for services (not included in the NatHERS assessment) Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the NatHERS stamped plans or installed match the 'Onsite Renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate? | Building sealing | | | | | | | |
| Appliances Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and system size or generation capacity shown on the NatHERS stamped plans or installed match the engineer equirements shown in the 'Appliance schedule' on this Certificate? Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the certificate? Additional NCC Requirements for Services (not included in the NatHERS assessment) Does the lighting meet the additional requirements specified in the NCC? | Does the dwelling meet the NCC requirements for Building Sealing? | | | | | | | |
| Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate? Does the lighting meet the artificial lighting requirements specified in the NCC? Does the lighting meet the additional requirements specified in the NCC? | Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted) | | | | | | | |
| NatHERS-stamped plans or as installed match the location and minimum Image: Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum Image: Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum Image: Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum Image: Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum Image: Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Image: Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Image: Certificate? Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate? Image: Certificate? Additional NCC Requirements for Services (not included in the NatHERS assessment) Image: Certificate? Image: Certificate? Does the lighting meet the artificial | Appliances | | | | | | | |
| NatHERS-stamped plans or installed, match the location and minimum Image: Construction of the image: Constructing image: Construction of the image: Construction of | Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate? | | | | | | | |
| stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate? Additional NCC Requirements for Services (not included in the NatHERS assessment) Does the lighting meet the artificial lighting requirements specified in the NCC? Does the hot water system meet the additional requirements specified in the NCC? | Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | | | |
| or as installed match the minimum efficiency/performance requirements shown in the Appliance schedule' on this Certificate? Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the Onsite Renewable Energy schedule' on this Certificate? Additional NCC Requirements for Services (not included in the NatHERS assessment) Does the lighting meet the artificial lighting requirements specified in the NCC? Does the hot water system meet the additional requirements specified in the NCC? | Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | | | |
| generation capacity shown on the NatHERS stamped plans or installed match the Image: Consister Renewable Energy schedule' on this Certificate? Additional NCC Requirements for Services (not included in the NatHERS assessment) Does the lighting meet the artificial lighting requirements specified in the NCC? Does the hot water system meet the additional requirements specified in the NCC? | Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? | | | | | | | |
| Does the lighting meet the artificial lighting requirements specified in the NCC? Image: Constraint of the specified in the NCC? Does the hot water system meet the additional requirements specified in the NCC? Image: Constraint of the specified in the NCC? | Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate? | | | | | | | |
| Does the hot water system meet the additional requirements specified in the NCC? | Additional NCC Requirements for Services (not included in the | NatHERS | assessi | ment) | | | | |
| | Does the lighting meet the artificial lighting requirements specified in the NCC? | | | | | | | |
| Provisional values* check | Does the hot water system meet the additional requirements specified in the NCC? | | | | | | | |
| | Provisional values* check | | | | | | | |

| Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below? | | | |
|--|--|--|--|
| | | | |

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room schedule

| Room | Zone Type | Area [m ²] |
|-----------------|----------------|------------------------|
| Kitchen/Living1 | Kitchen/Living | 19.68 |
| Bedroom 1 | Bedroom | 5.11 |
| Unconditioned 1 | Unconditioned | 6.41 |

Window and glazed door type and performance

Default windows*

| Vindow | Maximum | 6UCC * | Substitution to | olerance ranges | |
|------------------------------|--|---|---|---|--|
| scription U-value* | | SHGC lower limit | SHGC upper limit | | |
| Aluminium B DG Argon | | | | | |
| Fill High Solar Gain ow-E | 4.1 | 0.52 | 0.49 | 0.55 | |
| | escription Iuminium B DG Argon ill High Solar Gain | escription U-value* Iuminium B DG Argon ill High Solar Gain 4.1 | escription U-value* SHGC* Iuminium B DG Argon | escription U-value* SHGC* Iuminium B DG Argon ill High Solar Gain 4.1 0.52 0.49 | |

Custom windows*

| Window ID | Window Maximum | Maximum | SHGC* | Substitution tolerance ranges | | |
|----------------|----------------|----------|-------|-------------------------------|------------------|--|
| willdow iD | Description | U-value* | 3660 | SHGC lower limit | SHGC upper limit | |
| No Data Availa | able | | | | | |

Window and glazed door schedule

| Location | Window ID | Window no. | Height [mm] | Width [mm] | Window type | Opening % | Orientation | Window shading device* |
|-----------------|--------------|---------------|----------------|---------------|----------------|--------------|-------------|------------------------------|
| Kitchen/Living1 | ALM-006-03 A | W3 | 1500 | 1800 | Sliding | 45 | SE | No |
| Unconditioned 1 | ALM-006-03 A | W1 | 600 | 1500 | Sliding | 45 | NE | No |

Roof window* type and performance value

Default roof windows*

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | | |
|---------------|-------------|----------|-------|-------------------------------|------------------|--|--|
| window iD | Description | U-value* | 3160 | SHGC lower limit | SHGC upper limit | | |
| No Data Avail | able | | | | | | |

Custom roof windows*

| Window ID | Window | Maximum | SHGC* | Substitution tolerance ranges | | |
|---------------|-------------|----------|-------|-------------------------------|------------------|--|
| WINGOW ID | Description | U-value* | 31160 | SHGC lower limit | SHGC upper limit | |
| No Data Avail | able | | | | | |



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 | Skylight shaft reflectance |
|-------------|---|----------------------------|
| GEN-04-008a | Double-glazed clear, Timber and Aluminium Frame | 0.5 |

Skylight* schedule

| Location | Skylight ID | Skylight No. | Skylight shaft length [mm] | Area [m ²] | Outdoor shade | Diffuser |
|-----------------|----------------|-----------------|----------------------------------|---------------------------|------------------|----------|
| Unconditioned 1 | GEN-04-008a | S1 | 1000 | 0.39 NE | None | No |

External door schedule

| Location | Height [mm] | Width [mm] | Opening % | Orientation |
|-----------------|-------------|------------|-----------|-------------|
| Kitchen/Living1 | 2040 | 820 | 90 | NE |

External wall type

| Wall ID | Wall type | Solar absorptance | Bulk insulation [R-value] | Reflective wall wrap* |
|------------|--|----------------------|-------------------------------|-----------------------|
| EW-1 | Metal Timber Stud Frame Panel on Battens | 0.50 | Bulk Insulation, Air Gap R2.7 | No |

External wall schedule

| Location | Wall ID | Height [mm] | Width [mm] | Orientation | Horizontal shading feature* maximum projection [mm] | Vertical shading feature [yes/no] |
|-----------------|------------|----------------|---------------|-------------|---|--------------------------------------|
| Kitchen/Living1 | EW-1 | 2700 | 6400 | SE | 400 | No |
| Kitchen/Living1 | EW-1 | 2700 | 3000 | SW | 400 | No |
| Kitchen/Living1 | EW-1 | 2700 | 2200 | NE | 1800 | No |
| Bedroom 1 | EW-1 | 2700 | 2000 | SW | 400 | No |
| Unconditioned 1 | EW-1 | 2700 | 2800 | NE | 1800 | No |

Internal wall type

| Wall ID Wall type | | Area [m ²] | Bulk insulation |
|-------------------|--|------------------------|-----------------|
| IW-001 | Timber Stud Frame, Direct Fix Plasterboard | 5.40 | No insulation |

* Refer to glossary. Generated on 24 Mar 2025 using BERS Pro v5.2.4 (3.23) for Unit 6, 346 Beragoo Rd , GRATTAI , NSW , 2850

| 0011806452 | NatHERS | Certificate |
|------------|----------------|-------------|
|------------|----------------|-------------|



| Wall ID Wall type | | Area [m ²] Bulk insulation | | |
|-------------------|--|--|--|--|
| IW-002 | Shaft liner party wall with plaster | 13.50 | Bulk Insulation both sides of shaft liner R2.7 | |
| IW-003 | Timber Stud Frame, Direct Fix Plasterboard | 6.48 | Bulk Insulation, No Air Gap R2.7 | |

Floor type

| Location | Construction | Area [m²] | Sub-floor ventilation | Added insulation [R-value] | Covering |
|------------------|------------------------|--------------|-----------------------|----------------------------------|---------------------------|
| Kitchen/Living1 | Waffle pod slab 225 mm | 19.68 | None | Waffle Pod | 60/40 Carpet 10mm/Ceramic |
| Kitchen/Living i | 100mm | 19.00 | | 225mm | |
| Bedroom 1 | Waffle pod slab 225 mm | 5.11 | None | Waffle Pod | Carpet+Rubber Underlay |
| Bedroom 1 | 100mm | 5.11 | NULLE | 225mm | 18mm |
| Linconditioned 1 | Waffle pod slab 225 mm | 6.41 | None | Waffle Pod | Ceramic Tiles 8mm |
| Unconditioned 1 | 100mm | 0.41 | None | 225mm | Ceramic mes omm |

Ceiling type

| Location | Construction material/type | Bulk insulation R-value (may include edge batt values) | Reflective wrap* [yes/no] |
|-----------------|-------------------------------|---|------------------------------|
| Kitchen/Living1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Bedroom 1 | Plasterboard on Timber | Bulk Insulation R5 | |
| Unconditioned 1 | Plasterboard on Timber | Bulk Insulation R5 | |

Ceiling penetrations*

| Location | Quantity | Туре | Diameter [mm] | Sealed/unsealed |
|-----------------|----------|--------------|---------------|-----------------|
| Unconditioned 1 | 1 | Exhaust Fans | 300 | Sealed |

Ceiling fans

| Location | Quantity | Diameter [mm] |
|-------------------|----------|---------------|
| No Data Available | | |

Roof type

| Construction | Added insulation | Solar | Roof shade |
|------------------------------|---|-------------|------------|
| | [R-value] | absorptance | [colour] |
| Corrugated Iron Timber Frame | Bulk+Foil, Reflective Side Down, Anti-glare Up R1.3 | 0.50 | Medium |



Thermal bridging schedule for steel frame elements

| Building element | Steel section dimensions [height x width, mm] | Frame spacing [mm] | Steel thickness [BMT,mm] | Thermal break [R-value] |
|-------------------|--|--------------------|-----------------------------|-------------------------------|
| No Data Available | | | | |

Appliance schedule

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m² is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

| Appliance/ system type | Lo | cation F | uel type | effi | nimum ciency/ ormance | | mended acity |
|------------------------|--------------------|--------------------------|---------------------------------------|-----------------------------------|-----------------------------|---|------------------------------------|
| No Data Available | | | | | | | |
| Heating system | | | | | | | |
| Appliance/ system type | Location Fuel type | | Minimum efficiency/ performance | | Recommended capacity | | |
| No Data Available | | | | | | | |
| Hot water system | | | | | | | |
| Appliance/ system type | Fuel type | Hot Water CER Zone | Minimum efficiency /STC | Zone 3 STC - | | Ibstitution e ranges upper limit | Assessed daily load [litres] |
| No Data Available | | | | | | | |
| Pool/spa equipment | | | | | | | |
| Appliance/ system type | | Fuel type | | Minimur efficienc performar | y/ | Recomm capac | |
| No Data Available | | | | | | | |

Onsite Renewable Energy Schedule

| System Type | Orientation | System Size Or Generation Capacity |
|-------------------|-------------|------------------------------------|
| No Data Available | | |



Battery Schedule

System Type

Size [Battery Storage Capacity]

No Data Available



Explanatory notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

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

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

Glossary

| AFRC | Australian Fenestration Rating Council |
|---|--|
| Annual energy load | the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions. |
| Assessed floor area | the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents. |
| Ceiling penetrations | features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, 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. |
| COP | Coefficient of performance |
| 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. |
| EER | Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input |
| Energy use | This is your homes rating without solar or batteries. |
| Energy value | The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard). |
| 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 | see exposure categories below. |
| 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 – protected | terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas. |
| Exposure category – suburban | 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 (NCC) Class | the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au. |
| Net zero home | a home that achieves a net zero energy value*. |
| 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 |
| Recommended capacity | this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person. |
| 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 features | includes neighbouring buildings, fences, and wing walls, but excludes eaves. |
| 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. |
| 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. |
| STCs | Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) |
| Thermal breaks | are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips |
| 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). |
| Window shading device | device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies) |
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