



**NCC 2022 Volume 2  
Building Classification : Class 1 and Class 10**

**NATIONWIDE HOUSE ENERGY RATING SCHEME  
(NatHERS) BASIX COMPLIANCE REPORT**

CLIENT: Stephen Shaw

PROJECT ADDRESS: 9 Armstrong Street, Rylstone

NSW 2849

JOB NUMBER: 92227

REVISION: B

DATE: 18/10/2024

PREPARED BY: Hayley Smith



YOUR TRUSTED THERMAL EXPERTS



# Nationwide House Energy Rating Scheme<sup>®</sup>

## NatHERS<sup>®</sup> Certificate No. 0009629437-01

Generated on 18 Oct 2024 using BERS Pro v5.1.7 (3.22)

### Property

**Address** 9 Armstrong Street ,  
RYLSTONE , NSW , 2849

**Lot/DP** Lot 3 DP -

**NCC class\*** 1a

**Floor/all Floors** G of 1 floors

**Type** New Home

### Plans

**Main plan** Shaw

**Prepared by** Imagine Kit Homes

### Construction and environment

Assessed floor area [m2]*		Exposure type
Conditioned*	155.6	Suburban
Unconditioned*	10.9	
Total	204.5	<b>NatHERS climate zone</b>
Garage	38.0	65 Orange



### Accredited assessor

**Name** Hayley Smith

**Business name** Leading Energy | ESD

**Email** admin@leadingenergyesd.com.au

**Phone** 1300 374 043

**Accreditation No.** DMN/18/1861

**Assessor Accrediting Organisation**  
Design Matters National

**Declaration of interest** Declaration completed: no conflicts

### NCC Requirements

**NCC provisions** Volume Two

**State/Territory variation** 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](http://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



**NATIONWIDE  
HOUSE**  
ENERGY RATING SCHEME<sup>®</sup>

**156.0 MJ/m<sup>2</sup>**

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

For more information on your dwelling's rating see:  
[www.nathers.gov.au](http://www.nathers.gov.au)

### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
<b>Modelled</b>	144.2	11.8
<b>Load limits</b>	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 [www.hstar.com.au/QR/Generate?p=GiGSzUFZe](http://www.hstar.com.au/QR/Generate?p=GiGSzUFZe). When using either link, ensure you are visiting [www.hstar.com.au](http://www.hstar.com.au)



## About the ratings

### 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

No Whole of Home performance assessment conducted for this certificate

### Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

### Cost

No Whole of Home performance assessment conducted for this certificate



## Certificate check

The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.

	Approval Stage		Construction Stage		Occupancy/Other
	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	
<b>Genuine certificate check</b>					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Thermal performance check</b>					
<b>Windows and glazed doors</b>					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>External walls</b>					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Floor</b>					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Ceiling penetrations*</b>					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Ceiling</b>					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Roof</b>					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Apartment entrance doors (NCC Class 2 assessments only)</b>					
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.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<b>Exposure*</b>					
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".	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<b>Heating and cooling load limits*</b>					
Do the load limits settings (shown on page 1) match what is shown	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* Refer to glossary.



## Certificate check

Continued

	Approval Stage		Construction Stage		Occupancy/Other
	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	

### 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 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 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

The selected glazing U &amp; SHGC values to be achieved as opposed to achieving compliance based on

specifying the exact glazing description and/or glazing manufacturer.

External wall insulation R2.5HD bulk &amp; thermal break

Internal garage wall insulation R2.5HD bulk

Add R2.0 bulk to internal walls surrounding Bath & Laundry - remaining internal walls as uninsulated

3x West Kitchen/Dining windows to Double Glazed clear in Thermally broken frames

All remaining glazing to Double glazed clear in aluminium frames – excluding Bath

Ceiling insulation R5.0

Anticon under meatl roof sheeting

## Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Kitchen/Living	Kitchen/Living	68.75
Master Suite	Bedroom	21.2
Bedroom 2	Bedroom	16.01
Bedroom 3/Study	Bedroom	14.66
WIR	Nighttime	6.13
Ensuite	Nighttime	8.21
Laundry	Unconditioned	5.17
Bath	Unconditioned	5.75
WC	Daytime	1.81
B'PTY	Daytime	8.42
Corridor 1	Daytime	4.13
Corridor 2	Daytime	6.23
Garage	Garage	38.03

## Window and glazed door type and performance

### Default windows\*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ATB-006-01 B	AI Thermally Broken B	3.5	0.64	0.61	0.67
	DG Argon Fill Clear-Clear				



## Custom windows\*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
GJA-004-03 A	Type 076 Series Sliding Al Window DG 6mmClr-8-6mmClr	4.2	0.58	0.55	0.61
GJA-013-04 A	Type 131 Aluminium Sliding Window SG 4Clr	6.3	0.75	0.71	0.79
GJA-071-01 A	Type 245 Aluminium Sliding Door DG 4/10/4	4.0	0.63	0.60	0.66

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ATB-006-01 B	SD1	2100	4800	Sliding	45	W	No
Kitchen/Living	ATB-006-01 B	W16	833	4800	Fixed	00	W	No
Kitchen/Living	ATB-006-01 B	W1	1200	1800	Sliding	45	W	No
Kitchen/Living	GJA-004-03 A	W9	2100	800	Sliding	33	N	No
Kitchen/Living	GJA-004-03 A	W7	2100	850	Sliding	33	E	No
Kitchen/Living	GJA-004-03 A	W8	2100	850	Sliding	33	E	No
Master Suite	GJA-071-01 A	SD2	2100	3600	Sliding	45	W	No
Master Suite	GJA-004-03 A	W15	600	2400	Sliding	45	N	No
Bedroom 2	GJA-004-03 A	W6	600	2400	Sliding	45	E	No
Bedroom 3/Study	GJA-004-03 A	W10	600	2400	Sliding	45	E	No
WIR	GJA-004-03 A	W14	1800	600	Sliding	33	E	No
Ensuite	GJA-004-03 A	W13	1800	600	Sliding	33	E	No
Laundry	ALM-001-01 A	D3	1000	820	Casement	90	W	No
Bath	GJA-013-04 A	W2	1200	1500	Sliding	45	W	No
B'PTY	GJA-004-03 A	W18	1200	900	Sliding	45	W	No
Garage	ALM-001-01 A	D4	1000	820	Casement	90	W	No

## Roof window\* type and performance value

## Default roof windows\*

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

\* Refer to glossary.



## Custom roof windows\*

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

## Roof window\* schedule

Location	Window 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
No Data Available		

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ]	Orientation	Outdoor shade	Diffuser
No Data Available							

## External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Kitchen/Living	2100	820	90	S
Laundry	1100	820	90	W
Garage	1100	820	90	W
Garage	2100	4800	90	E

## External wall type

Wall ID	Wall type	Solar absorptance [colour]	Wall shade Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Metal Clad Steel Stud Frame Direct Fix	0.70	Anti-glare foil with bulk no gap R2.5	No
EW-2	Fibro Steel Stud Frame Panel Direct Fix	0.70	Anti-glare foil with bulk no gap R2.5	No
EW-3	Metal Clad Steel Stud Frame Direct Fix	0.70	No insulation	No





## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitchen/Living	EW-1	3325	5545	W	4000	No
Kitchen/Living	EW-1	2590	2045	W	0	No
Kitchen/Living	EW-1	2590	1800	N	0	No
Kitchen/Living	EW-2	3325	5600	E	600	No
Kitchen/Living	EW-1	2590	2400	S	0	No
Master Suite	EW-1	2590	4595	W	0	No
Master Suite	EW-1	2590	4445	N	0	No
Bedroom 2	EW-1	2590	4545	E	0	No
Bedroom 2	EW-1	2590	1500	S	0	No
Bedroom 3/Study	EW-1	2590	600	N	0	No
Bedroom 3/Study	EW-1	2590	4695	E	0	No
WIR	EW-1	2590	3345	N	0	No
WIR	EW-1	2590	1845	E	0	No
Ensuite	EW-1	2590	2740	E	0	No
Laundry	EW-1	2590	1690	W	0	No
Bath	EW-1	2590	2840	W	0	No
B'PTY	EW-1	2590	2690	W	0	No
Garage	EW-3	2590	6045	W	0	No
Garage	EW-3	2590	6045	E	0	No
Garage	EW-3	2590	6300	S	0	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Steel Stud Frame, Direct Fix Plasterboard	117.74	No insulation
IW-002	Steel Stud Frame, Direct Fix Plasterboard	14.50	Bulk Insulation, No Air Gap R2
IW-003	Steel Stud Frame, Direct Fix Plasterboard	11.01	Bulk Insulation, No Air Gap R2.5



## Floor type

Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	68.75	None	No Insulation	60/40 Carpet 10mm/Ceramic
Master Suite	Concrete Slab on Ground 100mm	21.20	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2	Concrete Slab on Ground 100mm	16.01	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/Study	Concrete Slab on Ground 100mm	14.66	None	No Insulation	Carpet+Rubber Underlay 18mm
WIR	Concrete Slab on Ground 100mm	6.13	None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite	Concrete Slab on Ground 100mm	8.21	None	No Insulation	Ceramic Tiles 8mm
Laundry	Concrete Slab on Ground 100mm	5.17	None	No Insulation	Ceramic Tiles 8mm
Bath	Concrete Slab on Ground 100mm	5.75	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab on Ground 100mm	1.81	None	No Insulation	Ceramic Tiles 8mm
B'PTY	Concrete Slab on Ground 100mm	8.42	None	No Insulation	Ceramic Tiles 8mm
Corridor 1	Concrete Slab on Ground 100mm	4.13	None	No Insulation	Carpet+Rubber Underlay 18mm
Corridor 2	Concrete Slab on Ground 100mm	6.23	None	No Insulation	Carpet+Rubber Underlay 18mm
Garage	Concrete Slab on Ground 100mm	38.03	None	No Insulation	Bare

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Kitchen/Living	Plasterboard on Steel	Bulk Insulation R5	
Master Suite	Plasterboard on Steel	Bulk Insulation R5	
Bedroom 2	Plasterboard on Steel	Bulk Insulation R5	
Bedroom 3/Study	Plasterboard on Steel	Bulk Insulation R5	
WIR	Plasterboard on Steel	Bulk Insulation R5	
Ensuite	Plasterboard on Steel	Bulk Insulation R5	
Laundry	Plasterboard on Steel	Bulk Insulation R5	
Bath	Plasterboard on Steel	Bulk Insulation R5	
WC	Plasterboard on Steel	Bulk Insulation R5	



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
B'PTY	Plasterboard on Steel	Bulk Insulation R5	
Corridor 1	Plasterboard on Steel	Bulk Insulation R5	
Corridor 2	Plasterboard on Steel	Bulk Insulation R5	
Garage	Plasterboard on Steel	No insulation	

### Ceiling penetrations\*

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	160	Sealed
Ensuite	1	Exhaust Fans	300	Sealed
Bath	1	Exhaust Fans	300	Sealed
WC	1	Exhaust Fans	300	Sealed

### Ceiling fans

Location	Quantity	Diameter [mm]
No Data Available		

### Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Corrugated Iron Steel Frame	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.70	Dark

### 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]
External Wall		600	0.75	R0.2
Ceiling		900	0.75	No
Roof		900	1.5	No
Internal Wall		600	0.75	No
External Wall		600	0.75	No

### Appliance schedule

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

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.



Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
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	Zone 3 Substitution tolerance ranges		Assessed daily load [litres]
					lower limit	upper limit	
No Data Available							

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
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	

\* Refer to glossary.



## 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 home's 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

<b>AFRC</b>	Australian Fenestration Rating Council
<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>Assessed floor area</b>	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.
<b>Ceiling penetrations</b>	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.
<b>COP</b>	Coefficient of performance
<b>Conditioned</b>	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.
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>EER</b>	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
<b>Energy use</b>	This is your home's rating without solar or batteries.
<b>Energy value</b>	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).
<b>Entrance door</b>	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.
<b>Exposure</b>	see exposure categories below.
<b>Exposure category – exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category – open</b>	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).
<b>Exposure category – protected</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category – suburban</b>	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	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 <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Net zero home</b>	a home that achieves a net zero energy value*.
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	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 <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Recommended capacity</b>	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.
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<b>Roof window</b>	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.
<b>Shading features</b>	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
<b>Skylight</b> (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
<b>Solar heat gain coefficient (SHGC)</b>	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
<b>STCs</b>	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)
<b>Thermal breaks</b>	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
<b>U-value</b>	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
<b>Unconditioned</b>	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
<b>Vertical shading features</b>	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).
<b>Window shading device</b>	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

\* Refer to glossary.

# BASIX<sup>®</sup>Certificate

Building Sustainability Index [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

## Single Dwelling

Certificate number: 1755723S\_02

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary

Date of issue: Friday, 18 October 2024

To be valid, this certificate must be submitted with a development application or lodged with a complying development certificate application within 3 months of the date of issue.



Project summary		
Project name	92227 Shaw Rylstone_02	
Street address	7 ARMSTRONG Street RYLSTONE 2849	
Local Government Area	Mid-Western Regional Council	
Plan type and plan number	Deposited Plan DP1010093	
Lot no.	3	
Section no.	-	
Project type	dwelling house (detached)	
No. of bedrooms	3	
Project score		
Water	✔ 41	Target 40
Thermal Performance	✔ Pass	Target Pass
Energy	✔ 61	Target 61
Materials	✔ -6	Target n/a

Certificate Prepared by
Name / Company Name: Leading Energy ESD
ABN (if applicable): 27655571805

# Description of project

Project address	
Project name	92227 Shaw Rylstone_02
Street address	7 ARMSTRONG Street RYLSTONE 2849
Local Government Area	Mid-Western Regional Council
Plan type and plan number	Deposited Plan DP1010093
Lot no.	3
Section no.	-
Project type	
Project type	dwelling house (detached)
No. of bedrooms	3
Site details	
Site area (m <sup>2</sup> )	2861
Roof area (m <sup>2</sup> )	234
Conditioned floor area (m <sup>2</sup> )	156.9
Unconditioned floor area (m <sup>2</sup> )	11.1
Total area of garden and lawn (m <sup>2</sup> )	150
Roof area of the existing dwelling (m <sup>2</sup> )	0

Assessor details and thermal loads		
Assessor number	DMN/18/1861	
Certificate number	0009629437-01	
Climate zone	65	
Area adjusted cooling load (MJ/m <sup>2</sup> .year)	12	
Area adjusted heating load (MJ/m <sup>2</sup> .year)	144	
Project score		
Water	✔ 41	Target 40
Thermal Performance	✔ Pass	Target Pass
Energy	✔ 61	Target 61
Materials	✔ -6	Target n/a

## Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<b>Fixtures</b>			
The applicant must install showerheads with a minimum rating of 3 star (> 7.5 but <= 9 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
<b>Alternative water</b>			
Rainwater tank			
The applicant must install a rainwater tank of at least 2500 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✓	✓	✓
The applicant must configure the rainwater tank to collect rain runoff from at least 180 square metres of the roof area of the development (excluding the area of the roof which drains to any stormwater tank or private dam).		✓	✓
The applicant must connect the rainwater tank to: <ul style="list-style-type: none"> <li>• all toilets in the development</li> <li>• the cold water tap that supplies each clothes washer in the development</li> <li>• at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human consumption in areas with potable water supply.)</li> </ul>		✓ ✓ ✓	✓ ✓ ✓



Thermal Performance and Materials commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<b>Simulation Method</b>			
Assessor details and thermal loads			
The applicant must attach the certificate referred to under "Assessor Details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for an occupation certificate for the proposed development.			
The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX certificate, including the Cooling and Heating loads shown on the front page of this certificate and the "Construction" and "Glazing" tables below.			
The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Assessor Certificate requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor to certify that this is the case. The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.	✓	✓	✓
The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
The applicant must show on the plans accompanying the development application for the proposed development, the locations of ceiling fans set out in the Assessor Certificate. The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.	✓	✓	✓

Thermal Performance and Materials commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Construction			
The applicant must construct the floors, walls, roofs, ceilings and glazing of the dwelling in accordance with the specifications listed in the tables below.	✓	✓	✓
The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the tables below.			✓

Construction	Area - m <sup>2</sup>	Insulation
floor - concrete slab on ground, conventional slab.	168	none
garage floor - concrete slab on ground.	38.1	none
external wall: framed (metal clad); frame: light steel frame.	88.5	fibreglass batts or roll+ foil/sarking
external wall: framed (fibre cement sheet or boards); frame: light steel frame.	15.1	fibreglass batts or roll+ foil/sarking
external garage wall: framed (metal clad); frame: light steel frame.	35.9	none
internal wall: plasterboard; frame: light steel frame.	19.2	fibreglass batts or roll
internal wall: plasterboard; frame: light steel frame.	102.7	none
ceiling and roof - flat ceiling / pitched roof, framed - metal roof, light steel frame.	233.7	ceiling: fibreglass batts or roll; roof: foil backed blanket.

**Thermal Performance and Materials commitments**Show on  
DA plansShow on CC/CDC  
plans & specsCertifier  
check**Glazing**

The applicant must install windows, glazed doors and skylights as described in the table below, in accordance with the specifications listed in the table.

**Frames****Maximum area - m2**

aluminium

22.8

timber

0

uPVC

16.2

steel

0

composite

0

**Glazing****Maximum area - m2**

single

2.4

double

36.6

triple


0


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<b>Hot water</b>			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: gas instantaneous with a performance of 6 stars.	✓	✓	✓
<b>Cooling system</b>			
The living areas must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
The bedrooms must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
<b>Heating system</b>			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: wood heater; Energy rating: n/a		✓	✓
The bedrooms must not incorporate any heating system, or any ducting which is designed to accommodate a heating system.		✓	✓
The wood heater must have a compliance plate confirming that it complies with the relevant Australian standards, and must be installed in accordance with the requirements of all applicable regulatory authorities.			✓
<b>Ventilation</b>			
<p>The applicant must install the following exhaust systems in the development:</p> <p>At least 1 Bathroom: individual fan, ducted to façade or roof; Operation control: manual switch on/off</p> <p>Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off</p> <p>Laundry: natural ventilation only, or no laundry; Operation control: n/a</p>		<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>	<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>
<b>Artificial lighting</b>			
The applicant must ensure that a minimum of 80% of light fixtures are fitted with fluorescent, compact fluorescent, or light-emitting-diode (LED) lamps.		✓	✓
<b>Natural lighting</b>			


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The applicant must install a window and/or skylight in 2 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
Other			
The applicant must install a gas cooktop & electric oven in the kitchen of the dwelling.		✓	
The applicant must install a fixed outdoor clothes drying line as part of the development.		✓	

## Legend

In these commitments, "applicant" means the person carrying out the development.

Commitments identified with a  in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).

Commitments identified with a  in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.

Commitments identified with a  in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate (either interim or final) for the development may be issued.