

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. 0005876990

Generated on 16 Apr 2021 using BERS Pro v4.4.0.3 (3.21)

### Property

**Address** 92 River Road , Emu Plains , NSW , 2750  
**Lot/DP** 12/1247788  
**NCC Class\*** 1A  
**Type** New Dwelling

### Plans

**Main Plan** LAPIN 20126  
**Prepared by** AH

### Construction and environment

<b>Assessed floor area (m<sup>2</sup>)*</b>	<b>Exposure Type</b>
Conditioned* 459.0	Open
Unconditioned* 87.0	<b>NatHERS climate zone</b>
Total 546.0	28
Garage 72.0	



### Accredited assessor

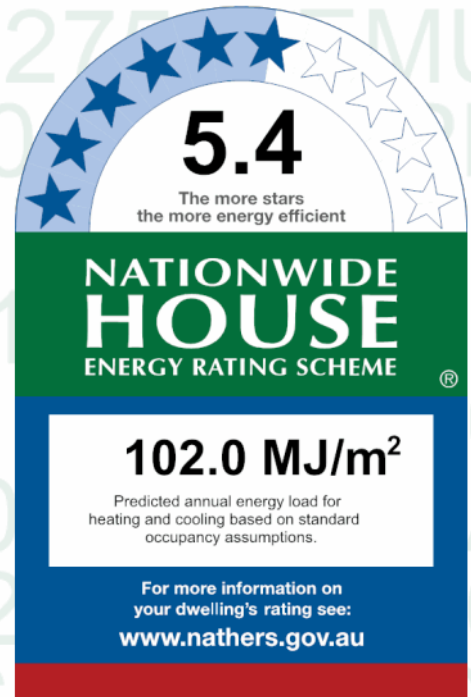
**Name** Ian Fry  
**Business name** Frys Energywise  
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**Phone** 02 9899 2825  
**Accreditation No.** DMN/12/1441  
**Assessor Accrediting Organisation** Design Matters National  
**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

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

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

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



### Thermal performance

<b>Heating</b>	<b>Cooling</b>
<b>54.3</b>	<b>47.7</b>
<b>MJ/m<sup>2</sup></b>	<b>MJ/m<sup>2</sup></b>

### About the rating

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

### Verification

To verify this certificate, scan the QR code or visit [hstar.com.au/QR/Generate?p=ExqNEYflz](http://hstar.com.au/QR/Generate?p=ExqNEYflz). When using either link, ensure you are visiting [hstar.com.au](http://hstar.com.au)



## Certificate check

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

### Genuine certificate

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

### Ceiling penetrations\*

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

### Windows

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

### Apartment entrance doors

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

### Exposure\*

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

### Provisional\* values

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

## Additional notes

Where not noted on plans, default selections to floor coverings and external colours have been used in this assessment, as noted in the NatHERS Technical Notes. Alternative selections past this point can be made to floor coverings and external colours, without requiring an amended certificate.

## 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
No Data Available					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
BRD-063-01 A	BRD-063-01 A SIG Fixed Lite (67mm) SG 4Clr	6.0	0.78	0.74	0.82
BRD-026-24 A	BRD-026-24 A ESS Awning Window (52mm) SG 4SP10	5.0	0.54	0.51	0.57
BRD-074-04 A	BRD-074-04 A Sig Fixed Window 100 Internally Glazed DG 6Sn-12-5Clr	3.1	0.46	0.44	0.48
BRD-112-01 A	BRD-112-01 A ESS Awning 52 SG 4mmClr	6.5	0.67	0.64	0.70

## Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
BRD-006-20 A	BRD-006-20 A SIG Bi Fold Door (100mm) SG 4SP10	4.6	0.52	0.49	0.55
BRD-033-13 A	BRD-033-13 A ESS Sliding Door (80mm) SG 4SP10	4.3	0.63	0.60	0.66
BRD-063-16 A	BRD-063-16 A SIG Fixed Lite (67mm) SG 4SP10	4.1	0.66	0.63	0.69
BRD-001-20 A	BRD-001-20 A ESS Sliding Window (52mm) SG 4mmEnTec(SP10)	4.6	0.67	0.64	0.70
BRD-024-19 A	BRD-024-19 A ESS Double Hung Window (52mm) SG 4SP10	4.5	0.62	0.59	0.65
BRD-001-01 A	BRD-001-01 A ESS Sliding Window (52mm) SG 3Clr	6.4	0.76	0.72	0.80

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Garage	BRD-063-01 A	n/a	1900	600	n/a	00	SE	No
Garage	BRD-063-01 A	n/a	1900	600	n/a	00	SE	No
Entry	BRD-026-24 A	n/a	2100	2100	n/a	30	SW	No
Entry	BRD-074-04 A	n/a	2100	2350	n/a	00	NE	No
Entry	BRD-074-04 A	n/a	2100	1700	n/a	00	NW	No
Entry	BRD-074-04 A	n/a	2400	805	n/a	00	SE	No
Entry	BRD-074-04 A	n/a	2400	805	n/a	00	SE	No
Entry	BRD-026-24 A	n/a	1900	800	n/a	60	SE	No
Laundry	BRD-112-01 A	n/a	1500	936	n/a	90	SW	No
Scullery	BRD-026-24 A	n/a	1500	936	n/a	90	SW	No
Scullery	BRD-074-04 A	n/a	603	1800	n/a	00	SW	No
Kitchen/Lounge	BRD-026-24 A	n/a	2100	3400	n/a	33	SW	No
Kitchen/Lounge	BRD-006-20 A	n/a	2400	5410	n/a	90	NE	No
Kitchen/Lounge	BRD-026-24 A	n/a	2100	1200	n/a	45	NW	No
Kitchen/Lounge	BRD-074-04 A	n/a	2100	2621	n/a	00	NW	No
Kitchen/Lounge	BRD-074-04 A	n/a	2100	1331	n/a	00	NW	No
Kitchen/Lounge	BRD-074-04 A	n/a	2100	1855	n/a	00	NE	No
Kitchen/Lounge	BRD-074-04 A	n/a	2100	2045	n/a	00	NE	No
Kitchen/Lounge	BRD-074-04 A	n/a	2100	1331	n/a	00	SE	No
Living	BRD-026-24 A	n/a	2100	2400	n/a	33	SW	No
Bathroom	BRD-112-01 A	n/a	600	1600	n/a	45	NW	No
Rumpus	BRD-033-13 A	n/a	2400	4810	n/a	68	NE	No
Guest	BRD-063-16 A	n/a	2100	1200	n/a	00	NW	No
Guest	BRD-063-16 A	n/a	2100	1200	n/a	00	NW	No
Guest	BRD-026-24 A	n/a	1900	800	n/a	60	SE	No
Guest	BRD-026-24 A	n/a	1900	800	n/a	60	SE	No

\* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Ensuite Guest	BRD-112-01 A	n/a	1900	800	n/a	60	SE	No
Store	BRD-026-24 A	n/a	1900	1000	n/a	60	NE	No
Master Bedroom	BRD-001-20 A	n/a	600	2000	n/a	40	SW	No
Master Bedroom	BRD-001-20 A	n/a	600	2000	n/a	40	SW	No
Master Bedroom	BRD-024-19 A	n/a	1500	800	n/a	45	NE	No
Master Bedroom	BRD-024-19 A	n/a	1500	800	n/a	45	NE	No
Master Bedroom	BRD-024-19 A	n/a	1500	800	n/a	45	NE	No
Master Bedroom	BRD-006-20 A	n/a	2400	3250	n/a	58	SE	No
Ensuite Master	BRD-001-01 A	n/a	600	2000	n/a	40	SW	No
Walk In Robe	BRD-001-20 A	n/a	600	2800	n/a	40	SW	No
Bedroom 2	BRD-001-20 A	n/a	1500	2400	n/a	40	SW	No
Ensuite Bed 2	BRD-112-01 A	n/a	800	1850	n/a	90	NW	No
Ensuite Bed 3	BRD-112-01 A	n/a	800	1850	n/a	90	NW	No
Reading Nook	BRD-001-20 A	n/a	1500	1850	n/a	45	NW	No
Bedroom 3	BRD-001-20 A	n/a	1500	2400	n/a	40	NE	No
Sitting	BRD-074-04 A	n/a	1500	1800	n/a	00	NE	No
Sitting	BRD-001-20 A	n/a	1200	2400	n/a	45	NW	No
Sitting	BRD-026-24 A	n/a	600	2400	n/a	60	NE	No
Sitting	BRD-026-24 A	n/a	1400	2400	n/a	60	SE	No
Sitting	BRD-006-20 A	n/a	2400	3250	n/a	58	SE	No

## Roof window type and performance

### Default\* roof windows

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

### 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

No Data Available

## Skylight schedule

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

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	5500	90	NE
Entry	2400	1640	90	SE
Laundry	2400	820	90	SE
Pool Storage	2700	2500	90	NW
Pool Storage	2700	2500	90	NW
Bathroom	2400	820	90	NE

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	No insulation	No
EW-2	Single Skin Brick	0.50	Medium	No insulation	No
EW-3	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-4	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-5	Fibro Cavity Panel Direct Fix	0.50	Medium	Bulk Insulation R2.5	No
EW-6	Fibro Cavity Panel Direct FixZ:16W2:7	0.50	Medium	Bulk Insulation R2.5	No
EW-7	Brick Veneer	0.50	Medium	Bulk Insulation R2.5	No
EW-8	Fibro Cavity Panel Direct FixZ:18W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-9	Fibro Cavity Panel Direct FixZ:19W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-10	Fibro Cavity Panel Direct FixZ:20W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-11	Fibro Cavity Panel Direct FixZ:24W2:1	0.50	Medium	Bulk Insulation R2.5	No
EW-12	Fibro Cavity Panel Direct FixZ:25W2:0	0.50	Medium	Bulk Insulation R2.5	No
EW-13	Fibro Cavity Panel Direct FixZ:25W2:1	0.50	Medium	Bulk Insulation R2.5	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
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Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	3172	10300	SW	100	NO
Garage	EW-1	3172	1000	NW	100	NO
Garage	EW-1	3173	2695	NW	0	YES
Garage	EW-2	3172	6995	NE	100	NO
Garage	EW-1	3172	1700	SE	100	YES
Garage	EW-1	3172	600	NE	100	YES
Garage	EW-1	3172	3100	SE	100	NO
Garage	EW-1	3172	600	SW	100	YES
Garage	EW-1	3172	1800	SE	100	YES
Entry	EW-3	3000	2700	SW	2700	YES
Entry	EW-4	3000	2695	NE	100	YES
Entry	EW-4	3000	2095	NW	600	YES
Entry	EW-4	3000	3795	SE	3600	YES
Entry	EW-4	3000	1100	NE	10200	YES
Entry	EW-4	3001	600	SE	2500	NO
Entry	EW-4	3000	2000	SE	1600	YES
Laundry	EW-3	3000	2595	SE	13700	YES
Laundry	EW-3	3000	3895	SW	100	NO
Scullery	EW-3	3000	5490	SW	100	NO
Kitchen/Lounge	EW-3	3000	195	SW	100	NO
Kitchen/Lounge	EW-3	3001	6295	SW	600	YES
Kitchen/Lounge	EW-3	3000	6495	NE	1900	YES
Kitchen/Lounge	EW-3	2701	1600	NW	14400	YES
Kitchen/Lounge	EW-3	2700	5400	NW	100	NO
Kitchen/Lounge	EW-3	2700	5500	NE	100	NO
Kitchen/Lounge	EW-3	2700	1600	SE	100	YES
Kitchen/Lounge	EW-4	3000	695	NE	100	YES
Living	EW-3	3000	1000	SE	6300	YES
Living	EW-3	3000	5395	SW	600	NO
Pool Storage	EW-1	3500	1895	SW	600	NO
Pool Storage	EW-1	3500	6295	NW	600	NO
Bathroom	EW-3	3000	2995	NW	600	NO
Bathroom	EW-3	3000	1895	NE	6800	NO
Rumpus	EW-3	3000	5395	NE	6800	NO
Rumpus	EW-3	3000	1600	SE	0	YES
Guest	EW-4	3000	3495	NW	600	NO
Guest	EW-4	3000	4200	NE	600	NO
Guest	EW-4	3000	3595	SE	1600	NO
Ensuite Guest	EW-4	3000	1595	SE	1600	NO

\* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Ensuite Guest	EW-4	3001	600	SE	2500	NO
Ensuite Guest	EW-4	3000	1100	SW	13100	YES
Store	EW-3	3001	1595	NE	12800	YES
Store	EW-3	3000	695	NE	100	NO
Master Bedroom	EW-5	2750	6095	SW	600	NO
Master Bedroom	EW-5	2750	1600	NE	600	YES
Master Bedroom	EW-3	525	6000	NE	0	NO
Master Bedroom	EW-6	2225	6000	NE	600	NO
Master Bedroom	EW-5	2750	5500	SE	2000	NO
Ensuite Master	EW-5	2750	3790	SW	600	NO
Walk In Robe	EW-5	2750	1395	SW	600	NO
Walk In Robe	EW-7	35	3195	SW	0	NO
Walk In Robe	EW-8	2715	3195	SW	600	NO
Bedroom 2	EW-3	35	4190	SW	0	NO
Bedroom 2	EW-9	2715	4190	SW	600	NO
WIR Bed 2	EW-3	35	1995	SW	0	NO
WIR Bed 2	EW-10	2715	1995	SW	600	NO
WIR Bed 2	EW-5	2750	3295	NW	600	NO
Ensuite Bed 2	EW-5	2750	3290	NW	600	NO
Ensuite Bed 3	EW-5	2750	2090	NW	600	NO
WIR Bed 3	EW-5	2750	2490	NW	600	NO
Reading Nook	EW-5	2750	2495	NW	600	NO
Reading Nook	EW-3	35	1995	NE	0	NO
Reading Nook	EW-11	2715	1995	NE	600	NO
Bedroom 3	EW-3	35	3495	NE	0	NO
Bedroom 3	EW-12	2715	3495	NE	600	NO
Bedroom 3	EW-3	35	1600	SE	0	YES
Bedroom 3	EW-13	2715	1600	SE	600	YES
Bedroom 3	EW-5	2750	595	NE	2200	YES
Sitting	EW-5	2750	2795	NE	600	YES
Sitting	EW-5	2750	3800	NW	600	YES
Sitting	EW-5	2750	4200	NE	600	NO
Sitting	EW-5	2750	3300	SE	600	NO
Sitting	EW-5	2751	700	SE	3000	NO
Sitting	EW-5	2750	1100	SW	12500	YES
Sitting	EW-5	2750	3800	SE	4100	YES
Sitting	EW-5	2750	1100	NE	8400	YES
Sitting	EW-5	2751	700	SE	3000	NO
Sitting	EW-5	2750	1895	SE	600	YES

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		72.00	Bulk Insulation, No Air Gap R2
IW-2 - Cavity wall, direct fix plasterboard, single gap		367.00	No insulation

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Concrete Slab on Ground 100mm	60.00	None	No Insulation	Bare
Entry	Concrete Slab on Ground 100mm	53.60	None	No Insulation	20/80 Carpet 10mm/Ceramic
Laundry	Concrete Slab on Ground 100mm	9.80	None	No Insulation	Ceramic Tiles 8mm
Scullery	Concrete Slab on Ground 100mm	11.40	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Lounge	Concrete Slab on Ground 100mm	110.60	None	No Insulation	Ceramic Tiles 8mm
Living	Concrete Slab on Ground 100mm	24.20	None	No Insulation	Carpet+Rubber Underlay 18mm
Pool Storage	Concrete Slab on Ground 100mm	11.60	None	No Insulation	Bare
Bathroom	Concrete Slab on Ground 100mm	5.50	None	No Insulation	Ceramic Tiles 8mm
Rumpus	Concrete Slab on Ground 100mm	24.80	None	No Insulation	Ceramic Tiles 8mm
Guest	Concrete Slab on Ground 100mm	15.70	None	No Insulation	Carpet+Rubber Underlay 18mm
Ensuite Guest	Concrete Slab on Ground 100mm	5.30	None	No Insulation	Ceramic Tiles 8mm
Store	Concrete Slab on Ground 100mm	3.40	None	No Insulation	Carpet+Rubber Underlay 18mm
Study	Concrete Slab on Ground 100mm	5.70	None	No Insulation	Carpet+Rubber Underlay 18mm
Powder	Concrete Slab on Ground 100mm	3.80	None	No Insulation	Ceramic Tiles 8mm
Linen	Concrete Slab on Ground 100mm	2.10	None	No Insulation	Carpet+Rubber Underlay 18mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	30.80		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Master Bedroom/Entry	Timber Above Plasterboard 19mm	5.30		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Master Bedroom/Store	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Master Bedroom/Study	Timber Above Plasterboard 19mm	0.90		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Ensuite Master/Garage	Timber Above Plasterboard 19mm	6.30		Bulk Insulation R2.5	Ceramic Tiles 8mm
Ensuite Master/Entry	Timber Above Plasterboard 19mm	4.40		Bulk Insulation R2.5	Ceramic Tiles 8mm
Ensuite Master	Suspended Timber Floor 19mm	3.30	Totally Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Walk In Robe/Entry	Timber Above Plasterboard 19mm	5.70		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Walk In Robe/Laundry	Timber Above Plasterboard 19mm	8.10		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm



Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Walk In Robe/Study	Timber Above Plasterboard 19mm	3.10		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Walk In Robe/Powder	Timber Above Plasterboard 19mm	2.80		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Walk In Robe	Suspended Timber Floor 19mm	3.50	Totally Open	Bulk Insulation in Contact with Floor R2.5	Carpet+Rubber Underlay 18mm
Bedroom 2/Entry	Timber Above Plasterboard 19mm	0.90		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bedroom 2/Laundry	Timber Above Plasterboard 19mm	1.80		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bedroom 2/Scullery	Timber Above Plasterboard 19mm	7.60		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bedroom 2/Kitchen/Lounge	Timber Above Plasterboard 19mm	12.20		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
WIR Bed 2/Scullery	Timber Above Plasterboard 19mm	3.90		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
WIR Bed 2/Kitchen/Lounge	Timber Above Plasterboard 19mm	2.50		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Ensuite Bed 2/Kitchen/Lounge	Timber Above Plasterboard 19mm	6.30		Bulk Insulation R2.5	Ceramic Tiles 8mm
Ensuite Bed 3/Kitchen/Lounge	Timber Above Plasterboard 19mm	7.90		Bulk Insulation R2.5	Ceramic Tiles 8mm
WIR Bed 3/Kitchen/Lounge	Timber Above Plasterboard 19mm	4.70		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Reading Nook/Kitchen/Lounge	Timber Above Plasterboard 19mm	4.80		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bedroom 3/Kitchen/Lounge	Timber Above Plasterboard 19mm	19.00		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Sitting/Entry	Timber Above Plasterboard 19mm	38.40		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Sitting/Kitchen/Lounge	Timber Above Plasterboard 19mm	4.60		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Sitting/Guest	Timber Above Plasterboard 19mm	8.20		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Sitting/Ensuite Guest	Timber Above Plasterboard 19mm	5.50		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Sitting/Study	Timber Above Plasterboard 19mm	2.00		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Sitting/Powder	Timber Above Plasterboard 19mm	1.20		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Sitting/Linen	Timber Above Plasterboard 19mm	2.40		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Powder/Kitchen/Lounge	Timber Above Plasterboard 19mm	3.40		Bulk Insulation R2.5	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Plasterboard	No insulation	No
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Entry	Timber Above Plasterboard	Bulk Insulation R2.5	No
Laundry	Timber Above Plasterboard	Bulk Insulation R2.5	No
Scullery	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Lounge	Plasterboard	Bulk Insulation R5	No
Kitchen/Lounge	Timber Above Plasterboard	Bulk Insulation R2.5	No

\* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Living	Plasterboard	Bulk Insulation R5	No
Pool Storage	Plasterboard	No insulation	No
Bathroom	Plasterboard	Bulk Insulation R5	No
Rumpus	Plasterboard	Bulk Insulation R5	No
Guest	Plasterboard	Bulk Insulation R5	No
Guest	Timber Above Plasterboard	Bulk Insulation R2.5	No
Ensuite Guest	Timber Above Plasterboard	Bulk Insulation R2.5	No
Store	Timber Above Plasterboard	Bulk Insulation R2.5	No
Study	Timber Above Plasterboard	Bulk Insulation R2.5	No
Powder	Timber Above Plasterboard	Bulk Insulation R2.5	No
Linen	Timber Above Plasterboard	Bulk Insulation R2.5	No
Master Bedroom	Plasterboard	Bulk Insulation R5	No
Ensuite Master	Plasterboard	Bulk Insulation R5	No
Walk In Robe	Plasterboard	Bulk Insulation R5	No
Bedroom 2	Plasterboard	Bulk Insulation R5	No
WIR Bed 2	Plasterboard	Bulk Insulation R5	No
Ensuite Bed 2	Plasterboard	Bulk Insulation R5	No
Ensuite Bed 3	Plasterboard	Bulk Insulation R5	No
WIR Bed 3	Plasterboard	Bulk Insulation R5	No
Reading Nook	Plasterboard	Bulk Insulation R5	No
Bedroom 3	Plasterboard	Bulk Insulation R5	No
Sitting	Plasterboard	Bulk Insulation R5	No
Powder	Plasterboard	Bulk Insulation R5	No

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm <sup>2</sup> )	Sealed/unsealed
Bathroom	1	Exhaust Fans	300	Sealed
Ensuite Guest	1	Exhaust Fans	0	Sealed
Powder	1	Exhaust Fans	0	Sealed
Ensuite Master	1	Exhaust Fans	300	Sealed
Ensuite Bed 2	1	Exhaust Fans	300	Sealed
Ensuite Bed 3	1	Exhaust Fans	300	Sealed
Powder	1	Exhaust Fans	300	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.85	Dark
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.85	Dark

## Explanatory notes

### About this report

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

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

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

### Accredited assessors

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

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

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

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

### Disclaimer

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

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

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

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

## Glossary

<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, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
<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>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 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 – suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category – protected</b>	terrain with numerous, closely spaced obstructions over 10m 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>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>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 device</b>	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
<b>Shading features</b>	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
<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>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>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).