Nationwide House Energy Rating Scheme
NatHERS Certificate No. #HR-MOTBUK-01

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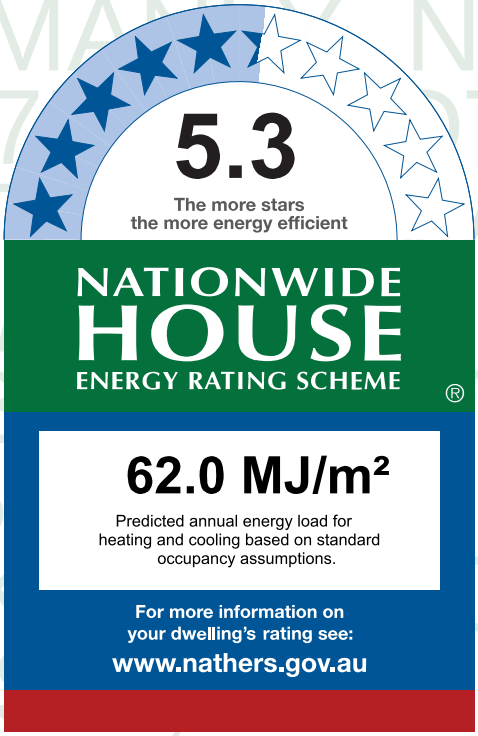

Property

Address	32 Bower Street, Manly, NSW, 2095
Lot/DP	Lot 28 / DP 8075
NCC Class*	1a
Type	New

Plans

Main Plan	Rev A
Prepared by	Eaton Molina Architects

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	626.5	Suburban	
Unconditioned*	22.1	**NatHERS climate zone**	
Total	764.8	56 - Mascot AMO	
Garage	116.2		

Thermal Performance

Heating	Cooling
40.3	**21.7**
MJ/m²	MJ/m²

Accredited assessor

Name	Manuel Basiri
Business name	Eco Certificates Pty Ltd
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Phone	+61 432471536
Accreditation No.	DMN/12/1462
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest

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 http://www.hero-software.com.au/pdf/HR-MOTBUK-01. When using either link, ensure you are visiting http://www.hero-software.com.au

National Construction Code (NCC) requirements

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

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

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

* Refer to glossary.

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?

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALS-102-36 A	Carinya Plus 65mm Fixed Window DG 022_AGG MAX Clr lam 6_12_638	2.26	0.25	0.24	0.26

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
BEDROOM 1	ALS-102-36 A	W51	3110	7540	Sliding	45	NNE	None
BEDROOM 1	ALS-102-36 A	W48-B	2110	1320	Louvre	90	ESE	None
BEDROOM 1	ALS-102-36 A	W48-A	2110	3480	Fixed	0	ESE	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
BEDROOM 2	ALS-102-36 A	W45	2110	900	Louvre	90	WNW	None
BEDROOM 2	ALS-102-36 A	W46	2110	900	Louvre	90	WNW	None
BEDROOM 3	ALS-102-36 A	W41-B	2750	930	Louvre	90	WNW	None
BEDROOM 3	ALS-102-36 A	W41-A	2750	2670	Sliding	45	WNW	None
BEDROOM 3	ALS-102-36 A	W26	2350	1140	Pivot	90	NNE	None
BEDROOM 3	ALS-102-36 A	W27	2350	1140	Pivot	90	NNE	None
BEDROOM 4	ALS-102-36 A	W20	2600	3970	Sliding	45	NNE	None
BEDROOM 4	ALS-102-36 A	W08	2600	600	Louvre	90	ESE	OP-90%
BEDROOM 5	ALS-102-36 A	W07	2600	600	Louvre	90	WNW	OP-90%
BEDROOM 5	ALS-102-36 A	W19	2600	3970	Sliding	45	NNE	None
CINEMA/MEDIA ROOM	ALS-102-36 A	W10	2600	1179	Casement	90	ENE	None
CINEMA/MEDIA ROOM	ALS-102-36 A	W18-B	2600	4210	Sliding	45	WNW	None
CINEMA/MEDIA ROOM	ALS-102-36 A	W18-A	2600	1100	Louvre	90	WNW	None
CLOAK/MUDROOM	ALS-102-36 A	W31	2000	1000	Louvre	90	ESE	None
ENSUITE	ALS-102-36 A	W24	1760	1100	Louvre	90	WNW	None
ENSUITE	ALS-102-36 A	W25	1760	960	Louvre	90	WNW	None
ENSUITE 1	ALS-102-36 A	W47	2110	1940	Louvre	90	WNW	None
ENSUITE 1	ALS-102-36 A	W50-B	3110	3035	Sliding	45	NNE	None
ENSUITE 1	ALS-102-36 A	W50-A	3110	600	Louvre	90	NNE	None
ENSUITE 4	ALS-102-36 A	W09	2600	600	Louvre	90	ESE	OP-90%
ENSUITE 5	ALS-102-36 A	W06	2600	600	Louvre	90	WNW	OP-90%
GARAGE	ALS-102-36 A	W13	2600	600	Fixed	0	ESE	None
GARAGE	ALS-102-36 A	W14	2600	600	Fixed	0	ESE	None
GARAGE	ALS-102-36 A	W15	2600	600	Fixed	0	ESE	None
GARAGE	ALS-102-36 A	W16	2600	600	Fixed	0	ESE	None
GUEST BEDROOM	ALS-102-36 A	W22	1760	900	Louvre	90	WNW	None
GUEST BEDROOM	ALS-102-36 A	W23	1760	900	Louvre	90	WNW	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
HALL L1	ALS-102-36 A	W03	1915	1060	Louvre	90	ESE	None
HALL L1	ALS-102-36 A	W05	2600	1000	Casement	90	ESE	None
HALL L3	ALS-102-36 A	W33	3100	12880	Sliding	45	ESE	OP-90%
HALL L3	ALS-102-36 A	W21	2750	1300	Louvre	90	SSW	None
HALL L3	ALS-102-36 A	W40-B	2750	1310	Fixed	0	SSW	None
HALL L3	ALS-102-36 A	W40-A	2750	1310	Fixed	0	SSW	None
HALL L3	ALS-102-36 A	W32	3100	8565	Fixed	0	WNW	None
HALL L3	ALS-102-36 A	W42	3100	4315	Sliding	45	WNW	None
KITCHEN/LIVING	ALS-102-36 A	W43	3100	6795	Sliding	45	SSW	None
KITCHEN/LIVING	ALS-102-36 A	W34	3100	6920	Fixed	0	WNW	None
KITCHEN/LIVING	ALS-102-36 A	W35	3100	1680	Louvre	90	WNW	None
KITCHEN/LIVING	ALS-102-36 A	W36	3100	1600	Louvre	90	NNE	None
KITCHEN/LIVING	ALS-102-36 A	W44	3100	9575	Sliding	45	NNE	None
KITCHEN/LIVING	ALS-102-36 A	W37	2100	5300	Fixed	0	ESE	None
LAUNDRY	ALS-102-36 A	W17	2600	900	Casement	90	NNE	None
PANTRY	ALS-102-36 A	W38	2100	1770	Louvre	90	ESE	None
POWDER ROOM	ALS-102-36 A	W39	3100	1600	Fixed	0	NNE	None
POWDER ROOM	ALS-102-36 A	W28	2000	1000	Louvre	90	ESE	None
POWDER ROOM	ALS-102-36 A	W29	2000	1040	Louvre	90	ESE	None
ROBE 1	ALS-102-36 A	W49-B	2110	1350	Fixed	0	ESE	None
ROBE 1	ALS-102-36 A	W49-A	2110	1350	Louvre	90	ESE	None
RUMPUS	ALS-102-36 A	W04	2600	7275	Sliding	45	NNE	None
RUMPUS	ALS-102-36 A	W02-B	2600	1100	Louvre	90	ESE	None
RUMPUS	ALS-102-36 A	W02-A	2600	1100	Fixed	0	ESE	None
RUMPUS	ALS-102-36 A	W01-B	2600	1905	Fixed	0	WNW	OP-90%
RUMPUS	ALS-102-36 A	W01-A	2600	2200	Louvre	90	WNW	OP-90%
STUDY	ALS-102-36 A	W11	1855	6600	Fixed	0	ESE	None

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
STUDY	ALS-102-36 A	W12	1855	1270	Louvre	90	ESE	None
STUDY	ALS-102-36 A	W30-B	2000	2580	Fixed	0	ESE	None
STUDY	ALS-102-36 A	W30-A	2000	2080	Louvre	90	ESE	None

Roof window *type and performance value*

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
VEL-010-01 W	VELUX VS - Ventilating Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.53	0.21	0.20	0.22
VEL-011-01 W	VELUX FS - Fixed Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.58	0.24	0.23	0.25

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
ENSUITE 1	VEL-010-01 W	SKYRW 05	0	2345	1485	N	None	None
ENSUITE 2	VEL-010-01 W	SKYRW 04	0	1223	2100	N	None	None
HALL L3	VEL-011-01 W	SKYRW 01	0	2600.00	2600.00	N	None	None
HALL L4	VEL-011-01 W	SKYRW 02	0	2600.00	2600.00	N	None	None
ROBE 1	VEL-011-01 W	SKYRW 03	0	1678	1270	N	None	None
ROBE 1	VEL-011-01 W	SKYRW 06	0	1420	1500	N	None	None

Skylight *type and performance*

Skylight ID	Skylight description
None	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orient-ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

* Refer to glossary.

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
GARAGE	2600	900	90	ESE

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-NONREFL-CAV	Brick Veneer Stud Wall with Non-Reflective Sarking	0.30	Light	2.00	No
CAV-BRICK-110-110-PB-A	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	0.30	Light	2.00	No
CAV-BRICK-110-110-PB-B	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	0.50	Medium	2.00	No
CAV-BRICK-110-110-PB-C	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	0.30	Light	0.00	No
CONCBLOCK-190-HOL-PB	Concrete Block 190mm Hollow - Plasterboard Internally	0.50	Medium	2.00	No
CONCBLOCK-190-HOL-PB-A-A	Concrete Block	0.50	Medium	2.00	No
CONCBLOCK-190-HOL-PB-A-B	Concrete Block	0.30	Light	0.00	No
CONCBLOCK-190-HOL-PB-A-C	Concrete Block	0.30	Light	2.00	No
WB-NONREFL-CAV1-A	Weatherboard Battened (Non-Refl Cavity) Stud Wall	0.30	Light	2.00	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
BEDROOM 1	CAV-BRICK-110-110-PB-A	3110	8118	NNE	1128	Yes
BEDROOM 1	CAV-BRICK-110-110-PB-A	3100	4752	ESE	344	No
BEDROOM 2	CAV-BRICK-110-110-PB-A	3100	4481	WNW	454	Yes
BEDROOM 2	CAV-BRICK-110-110-PB-A	3100	4170	SSW	1370	No
BEDROOM 3	CAV-BRICK-110-110-PB-A	3100	3679	WNW	276	No
BEDROOM 3	CAV-BRICK-110-110-PB-A	3100	5656	NNE	1381	Yes
BEDROOM 3	BV-NONREFL-CAV	3100	1645	ESE		No
BEDROOM 3	CAV-BRICK-110-110-PB-A	3100	194	SSW		Yes
BEDROOM 4	CAV-BRICK-110-110-PB-A	3000	4441	NNE	2613	Yes
BEDROOM 4	CAV-BRICK-110-110-PB-A	3000	4397	ESE		Yes
BEDROOM 5	CAV-BRICK-110-110-PB-A	3000	4397	WNW		Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
BEDROOM 5	CAV-BRICK-110-110-PB-A	3000	4477	NNE	2613	Yes
CELLAR	CONCBLOCK-190-HOL-PB-A-A	3000	1879	WNW		No
CELLAR	CONCBLOCK-190-HOL-PB-A-A	3000	2796	SSW		No
CINEMA/MEDIA ROOM	CAV-BRICK-110-110-PB-A	3000	1179	ENE	1133	Yes
CINEMA/MEDIA ROOM	CAV-BRICK-110-110-PB-A	3000	5648	WNW	2531	Yes
CLOAK/MUDROOM	CAV-BRICK-110-110-PB-A	3100	3698	ESE	282	Yes
CLOAK/MUDROOM	CAV-BRICK-110-110-PB-A	3100	1756	SSW		Yes
CLOAK/MUDROOM	CAV-BRICK-110-110-PB-A	3100	546	WNW		Yes
COMMS PLANT	CONCBLOCK-190-HOL-PB-A-C	3000	4657	SSW		No
ENSUITE	CAV-BRICK-110-110-PB-A	3100	2144	WNW	470	Yes
ENSUITE 1	CAV-BRICK-110-110-PB-A	3100	5616	WNW	262	No
ENSUITE 1	CAV-BRICK-110-110-PB-A	3110	4212	NNE	1190	Yes
ENSUITE 1	CAV-BRICK-110-110-PB-A	3100	189	SSW		Yes
ENSUITE 2	CAV-BRICK-110-110-PB-A	3100	1969	SSW		No
ENSUITE 3	BV-NONREFL-CAV	3100	2136	NNE		No
ENSUITE 4	CAV-BRICK-110-110-PB-A	3000	1660	ESE		Yes
ENSUITE 4	CAV-BRICK-110-110-PB-A	3000	1012	SSE		Yes
ENSUITE 5	CAV-BRICK-110-110-PB-A	3000	2491	WSW	2494	Yes
ENSUITE 5	CAV-BRICK-110-110-PB-A	3000	1495	WNW		Yes
GARAGE	CONCBLOCK-190-HOL-PB-A-B	3000	5516	SSW		No
GARAGE	CONCBLOCK-190-HOL-PB-A-B	3000	1368	WNW		No
GARAGE	CONCBLOCK-190-HOL-PB-A-B	3000	3750	SSW		No
GARAGE	CONCBLOCK-190-HOL-PB-A-B	3000	11445	WNW		No
GARAGE	CONCBLOCK-190-HOL-PB-A-B	3000	6489	NNE		No
GARAGE	CONCBLOCK-190-HOL-PB-A-B	3000	834	N		No
GARAGE	CONCBLOCK-190-HOL-PB-A-B	3000	1217	NNW		No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
GARAGE	CONCBLOCK-190-HOL-PB-A-B	3000	8482	WNW		No
GARAGE	CAV-BRICK-110-110-PB-C	3000	8835	ESE		Yes
GARAGE	CAV-BRICK-110-110-PB-C	3000	686	SE		Yes
GARAGE	CAV-BRICK-110-110-PB-C	3000	1359	SSE	3629	Yes
GARAGE	CAV-BRICK-110-110-PB-C	3000	8822	ESE	3702	Yes
GARAGE	CAV-BRICK-110-110-PB-C	3000	967	ENE	4374	Yes
GARAGE	CAV-BRICK-110-110-PB-C	3000	957	E	4026	Yes
GARAGE	CAV-BRICK-110-110-PB-C	3000	1750	ESE	2608	Yes
GUEST BEDROOM	CAV-BRICK-110-110-PB-A	3100	3888	WNW	470	Yes
GUEST BEDROOM	CAV-BRICK-110-110-PB-A	3100	4023	SSW	1349	Yes
GUEST BEDROOM	CAV-BRICK-110-110-PB-A	3100	546	ESE		Yes
HALL L1	CONCBLOCK-190-HOL-PB	3000	1036	WNW		No
HALL L1	CAV-BRICK-110-110-PB-A	3000	6387	ESE	2617	Yes
HALL L1	CAV-BRICK-110-110-PB-B	3000	5747	SSW		No
HALL L2	WB-NONREFL-CAV1-A	3000	2593	SSW		Yes
HALL L2	CAV-BRICK-110-110-PB-A	3000	494	ESE		Yes
HALL L2	CONCBLOCK-190-HOL-PB-A-C	3000	988	WNW		No
HALL L2	CONCBLOCK-190-HOL-PB-A-C	3000	1046	SSW		No
HALL L2	WB-NONREFL-CAV1-A	3000	3184	ESE		Yes
HALL L3	BV-NONREFL-CAV	3100	735	NNE		No
HALL L3	BV-NONREFL-CAV	3100	4271	WNW		No
HALL L3	CAV-BRICK-110-110-PB-A	3100	385	SSW		Yes
HALL L3	WB-NONREFL-CAV1-A	3100	3160	ESE	365	Yes
HALL L3	WB-NONREFL-CAV1-A	3100	2608	SSW		Yes
HALL L3	CAV-BRICK-110-110-PB-A	3100	14052	ESE	2892	Yes
HALL L3	CAV-BRICK-110-110-PB-A	3100	6216	SSW	1898	Yes

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
HALL L3	CAV-BRICK-110-110-PB-A	3100	13779	WNW		Yes
KITCHEN/LIVING	CAV-BRICK-110-110-PB-A	3100	8374	SSW	1808	Yes
KITCHEN/LIVING	CAV-BRICK-110-110-PB-A	3100	10958	WNW	336	No
KITCHEN/LIVING	CAV-BRICK-110-110-PB-A	3100	12678	NNE	5879	No
KITCHEN/LIVING	CAV-BRICK-110-110-PB-A	3100	5740	ESE	288	Yes
LAUNDRY	CONCBLOCK-190-HOL-PB-A-C	3000	4183	WNW		No
LAUNDRY	CAV-BRICK-110-110-PB-A	3000	2236	NNE		Yes
LAUNDRY	CONCBLOCK-190-HOL-PB-A-C	3000	2236	SSW		No
PANTRY	CAV-BRICK-110-110-PB-A	3100	2196	ESE	284	Yes
POWDER ROOM	CAV-BRICK-110-110-PB-A	3100	2245	NNE		Yes
POWDER ROOM	CAV-BRICK-110-110-PB-A	3100	2567	ESE	282	Yes
ROBE 1	CAV-BRICK-110-110-PB-A	3100	5311	ESE	344	No
ROBE 1	CAV-BRICK-110-110-PB-A	3100	5959	SSW		No
RUMPUS	CONCBLOCK-190-HOL-PB-A-A	3000	2671	WNW		No
RUMPUS	CAV-BRICK-110-110-PB-A	3000	8721	NNE	4543	Yes
RUMPUS	CAV-BRICK-110-110-PB-A	3000	7767	ESE	2617	Yes
RUMPUS	CAV-BRICK-110-110-PB-A	3000	5096	WNW	344	Yes
SAUNA	CAV-BRICK-110-110-PB-B	3000	3254	WNW		No
STUDY	CAV-BRICK-110-110-PB-A	3000	478	NNE		Yes
STUDY	CAV-BRICK-110-110-PB-A	3000	8242	ESE		Yes
STUDY	CAV-BRICK-110-110-PB-A	3000	1993	NNW		Yes
STUDY	CAV-BRICK-110-110-PB-A	3100	5323	ESE	282	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
CAV-BRICK-110-110-PB	Cavity Brick Wall - 110mm/110mm Plasterboard Internally	4.4	2.00
CONCBLOCK-190-HOL-PB-A	Concrete Block	1.0	0.00

* Refer to glossary.

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
SGL-BRICK-110-REND	Single 110mm Brick Wall - Rendered Both Sides	383.2	0.00

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
BEDROOM 1	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	38.5	N/A	0.00	Carpet
BEDROOM 2	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	17.4	N/A	0.00	Carpet
BEDROOM 3	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	23.3	N/A	3.00	Carpet
BEDROOM 4	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	14.5	N/A	0.00	Carpet
BEDROOM 4	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	11.1	N/A	3.00	Carpet
BEDROOM 5	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	14.3	N/A	0.00	Carpet
BEDROOM 5	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	11.5	N/A	3.00	Carpet
CELLAR	CSOG-100: Concrete Slab on Ground (100mm)	5.3	N/A	1.00	Carpet
CINEMA/MEDIA ROOM	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	44.9	N/A	0.00	Carpet
CINEMA/MEDIA ROOM	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	9.1	N/A	3.00	Carpet
CLOAK/MUDROOM	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	7.0	N/A	3.00	Tile
COMMS PLANT	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	0.9	N/A	0.00	Carpet
COMMS PLANT	CSOG-100: Concrete Slab on Ground (100mm)	6.2	N/A	0.00	Carpet
ENSUITE	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	3.9	N/A	3.00	Tile
ENSUITE 1	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	21.7	N/A	0.00	Tile
ENSUITE 2	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	3.8	N/A	0.00	Tile
ENSUITE 2	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	1.1	N/A	3.00	Tile
ENSUITE 3	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	6.3	N/A	3.00	Tile
ENSUITE 4	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	7.3	N/A	0.00	Tile
ENSUITE 5	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	6.9	N/A	0.00	Tile
ENSUITE 5	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	0.5	N/A	3.00	Tile
GARAGE	CSOG-100: Concrete Slab on Ground (100mm)	116.2	N/A	0.00	Exposed

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
GUEST BEDROOM	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	15.6	N/A	3.00	Carpet
HALL L1	CSOG-100: Concrete Slab on Ground (100mm)	13.9	N/A	1.00	Carpet
HALL L2	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	14.1	N/A	0.00	Carpet
HALL L2	CSOG-100: Concrete Slab on Ground (100mm)	7.0	N/A	0.00	Carpet
HALL L3	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	57.0	N/A	3.00	Carpet
HALL L3	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	13.2	N/A	0.00	Carpet
HALL L3	CSOG-100: Concrete Slab on Ground (100mm)	0.5	N/A	0.00	Carpet
HALL L4	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	0.2	N/A	0.00	Tile
HALL L4	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	13.8	N/A	0.00	Carpet
KITCHEN/LIVING	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	82.6	N/A	0.00	Carpet
KITCHEN/LIVING	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	11.4	N/A	0.00	Tile
KITCHEN/LIVING	CSOG-100: Concrete Slab on Ground (100mm)	1.0	N/A	0.00	Carpet
KITCHEN/LIVING	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	25.6	N/A	3.00	Carpet
LAUNDRY	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	9.4	N/A	3.00	Tile
PANTRY	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	4.7	N/A	0.00	Tile
PANTRY	CSOG-100: Concrete Slab on Ground (100mm)	0.5	N/A	0.00	Tile
POWDER ROOM	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	5.8	N/A	3.00	Tile
ROBE 1	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	21.5	N/A	0.00	Carpet
ROBE 1	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	3.9	N/A	3.00	Carpet
RUMPUS	CSOG-100: Concrete Slab on Ground (100mm)	67.7	N/A	1.00	Carpet
SAUNA	CSOG-100: Concrete Slab on Ground (100mm)	21.1	N/A	1.00	Tile
STUDY	SUSP-CONC-100: Suspended Concrete Slab Floor (100mm)	27.9	N/A	3.00	Carpet

* Refer to glossary.

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
BEDROOM 1	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
BEDROOM 2	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
BEDROOM 3	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
BEDROOM 4	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
BEDROOM 5	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
CELLAR	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
CINEMA/MEDIA ROOM	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
CLOAK/MUDROOM	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
COMMS PLANT	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
ENSUITE	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
ENSUITE 1	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
ENSUITE 2	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
ENSUITE 3	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
ENSUITE 4	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
ENSUITE 5	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
GARAGE	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
GARAGE	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	No
HALL L1	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
HALL L2	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
HALL L3	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
HALL L4	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
KITCHEN/LIVING	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
LAUNDRY	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
PANTRY	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
POWDER ROOM	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No

* Refer to glossary.

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
ROBE 1	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
RUMPUS	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
SAUNA	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No
STUDY	SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	5.00	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
BEDROOM 1	6	Downlight	200	Sealed
BEDROOM 2	2	Downlight	200	Sealed
BEDROOM 3	2	Downlight	200	Sealed
BEDROOM 4	4	Downlight	200	Sealed
BEDROOM 5	4	Downlight	200	Sealed
CLOAK/MUDROOM	1	Downlight	200	Sealed
COMMS PLANT	1	Downlight	200	Sealed
ENSUITE	1	Exhaust Fan	350	Sealed
ENSUITE 1	3	Downlight	200	Sealed
ENSUITE 1	1	Exhaust Fan	350	Sealed
ENSUITE 2	1	Downlight	200	Sealed
ENSUITE 2	1	Exhaust Fan	350	Sealed
ENSUITE 3	1	Exhaust Fan	350	Sealed
ENSUITE 4	1	Downlight	200	Sealed
ENSUITE 4	1	Exhaust Fan	350	Sealed
ENSUITE 5	1	Downlight	200	Sealed
ENSUITE 5	1	Exhaust Fan	350	Sealed
GUEST BEDROOM	2	Downlight	200	Sealed
HALL L1	2	Downlight	200	Sealed
HALL L2	3	Downlight	200	Sealed

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
HALL L3	10	Downlight	200	Sealed
HALL L4	2	Downlight	200	Sealed
KITCHEN/LIVING	17	Downlight	200	Sealed
KITCHEN/LIVING	1	Exhaust Fan	350	Sealed
LAUNDRY	1	Downlight	200	Sealed
LAUNDRY	1	Exhaust Fan	350	Sealed
PANTRY	1	Downlight	200	Sealed
POWDER ROOM	1	Exhaust Fan	350	Sealed
ROBE 1	4	Downlight	200	Sealed
RUMPUS	2	Downlight	200	Sealed
SAUNA	3	Downlight	200	Sealed
STUDY	4	Downlight	200	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-100-CEIL-01: Concrete Slab (100mm) with Suspended PB Ceiling	0.00	0.50	Medium

* Refer to glossary.

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

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

* Refer to glossary.