Nationwide House Energy Rating Scheme — Class 1 Summary
NatHERS Certificate No. #HR-8VVADF-01

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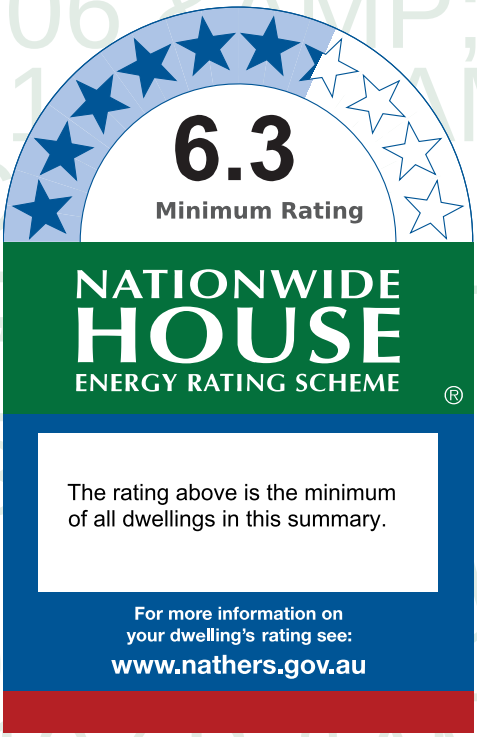

Property

Address 106 & 108 Chester Hill Road, Bass Hill, NSW, 2197

Lot/DP B & C/23626

NatHERS climate zone 56 - Mascot AMO

Accredited assessor

Ioannis Fragkoulidis

WIDE SPECTRUM PTY LTD

yanni.aenec@gmail.com

+61 452648288

Accreditation No. 10002

Assessor Accrediting Organisation HERA

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-8VVADF-01 . When using either link, ensure you are visiting http://www.hero-software.com.au

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m²)	Cooling load (MJ/m²)	Total load (MJ/m²)	Star rating
HR-3POTYH-01	Unit 02	27.6	20.1	47.8	6.3
HR-AKYJI2-01	Unit 03	11.0	18.2	29.2	7.7
HR-SRA4A7-01	Unit 04	23.4	24.0	47.4	6.3
HR-DHVHCF-01	Unit 05	5.6	17.5	23.1	8.2

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

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m²)	Cooling load (MJ/m²)	Total load (MJ/m²)	Star rating
HR-IQDE0S-01	Unit 06	28.8	18.6	47.4	6.3
Maximum Loads and Minimum Rating		28.8	24.0	47.8	6.3
Average	5x (Total)	19.3	19.7	39.0	7.0

Explanatory Notes

About this report

This summary rating is the ratings of all NCC Class 1 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the 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. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

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). 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.

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

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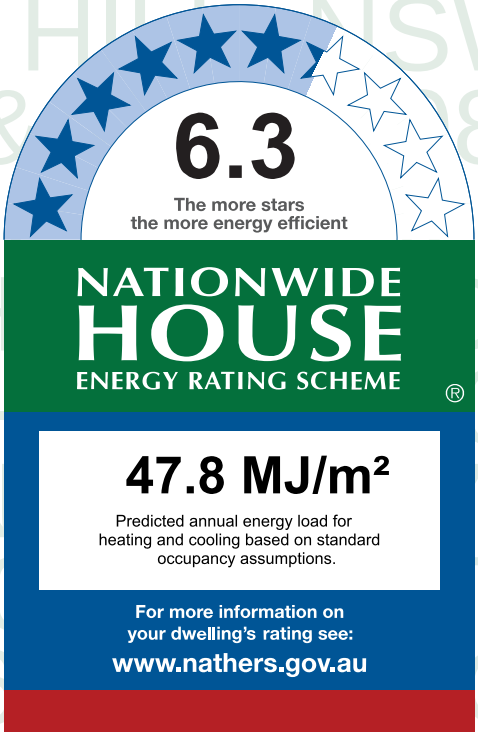

Property

Address	Unit 02, 106 & 108 Chester Hill Road, Bass Hill, NSW, 2197
Lot/DP	B & C/23626
NCC Class*	1a
Type	New

Plans

Main Plan	106B/25.08.2022-DA09
Prepared by	GN

Construction and environment

Assessed floor area (m²)*		**Exposure Type**
Conditioned*	139.6	Suburban
Unconditioned*	12.0	**NatHERS climate zone**
Total	151.5	56 - Mascot AMO
Garage	0.0	

Accredited assessor

Name	Ioannis Fragkoulidis
Business name	WIDE SPECTRUM PTY LTD
Email	yanni.aenec@gmail.com
Phone	+61 452648288
Accreditation No.	10002
Assessor Accrediting Organisation	HERA
Declaration of interest	No Conflict of Interest

Thermal Performance

Heating	Cooling
27.6	**20.1**
MJ/m²	MJ/m²

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.

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

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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

Default ceiling penetration density calculated as lighting plan has not been provided. All openable windows other than located on ground floor or are louvre type (if applicable) are assumed to be fully openable as safety devices (STEEL MESH) are in place. If these are not in place then this Nathers must be revised.
Foilboard green 15mm to be used for cavity brick walls with 20 reflective

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
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
B ROOM 08	ALM-002-01 A	W02	1020	1200	Sliding	45	N	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*
B ROOM 09	ALM-002-01 A	W02	1020	1200	Sliding	45	N	None
B ROOM 10	ALM-002-01 A	W02	1020	1200	Sliding	45	N	None
B ROOM 11	ALM-002-01 A	W02	1020	1200	Sliding	45	S	None
BATH/LAUNDRY 03	ALM-002-01 A	W04	1020	724	Sliding	45	S	None
BATH/LAUNDRY 04	ALM-002-01 A	W03	940	610	Sliding	45	W	None
KITCHEN DINING 03	ALM-002-01 A	W02	1020	1200	Sliding	45	W	None
KITCHEN DINING 03	ALM-002-01 A	D03	2109	1535	Sliding	45	W	None
KLD	ALM-002-01 A	W02	1020	1200	Sliding	45	S	None
KLD	ALM-002-01 A	W02	1020	1200	Sliding	45	S	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
None					

Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
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
KITCHEN DINING 03	2100	900	90	N
KLD	2100	900	90	E

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
WB-NOCAV	Weatherboard Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.73	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
B ROOM 08	WB-NOCAV	2700	3518	N	445	Yes
B ROOM 08	WB-NOCAV	2700	3167	E	476	Yes
B ROOM 08	WB-NOCAV	2700	15	S		Yes
B ROOM 09	WB-NOCAV	2700	3073	N	445	Yes
B ROOM 10	WB-NOCAV	2700	2764	N	445	Yes
B ROOM 11	WB-NOCAV	2700	2712	S	434	Yes
B ROOM 11	WB-NOCAV	2700	4541	W	425	Yes
B ROOM 11	WB-NOCAV	2700	19	E		Yes
BATH/LAUNDRY 03	WB-NOCAV	2700	1936	S	453	Yes
BATH/LAUNDRY 04	WB-NOCAV	2700	1683	W	428	Yes
BATH/LAUNDRY 04	WB-NOCAV	2700	1983	S	434	Yes
ENS B09	WB-NOCAV	2700	1505	N	445	Yes
KITCHEN DINING 03	WB-NOCAV	2700	3420	N	445	Yes
KITCHEN DINING 03	WB-NOCAV	2700	4783	W	428	Yes
KLD	WB-NOCAV	2700	7966	E	487	Yes
KLD	WB-NOCAV	2700	7949	S	449	Yes

* Refer to glossary.

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	105.1	0.00

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
B ROOM 08	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	11.1	N/A	2.00	Tile
B ROOM 09	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	9.1	N/A	2.00	Tile
B ROOM 10	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	8.8	N/A	2.00	Tile
B ROOM 11	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	13.4	N/A	2.00	Tile
BATH/LAUNDRY 03	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	6.2	N/A	2.00	Tile
BATH/LAUNDRY 04	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	5.8	N/A	2.00	Tile
ENS B09	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	5.4	N/A	2.00	Tile
KITCHEN DINING 03	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	16.4	N/A	2.00	Tile
KLD	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	75.5	N/A	2.00	Tile

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
B ROOM 08	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
B ROOM 09	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
B ROOM 10	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
B ROOM 11	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
BATH/LAUNDRY 03	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
BATH/LAUNDRY 04	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
ENS B09	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
KITCHEN DINING 03	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
KLD	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
B ROOM 08	2	Downlight	150	Sealed
B ROOM 09	2	Downlight	150	Sealed
B ROOM 10	2	Downlight	150	Sealed
B ROOM 11	2	Downlight	150	Sealed
BATH/LAUNDRY 03	1	Downlight	150	Sealed
BATH/LAUNDRY 03	1	Exhaust Fan	160	Sealed
BATH/LAUNDRY 04	1	Downlight	150	Sealed
BATH/LAUNDRY 04	1	Exhaust Fan	160	Sealed
ENS B09	1	Downlight	150	Sealed
ENS B09	1	Exhaust Fan	160	Sealed
KITCHEN DINING 03	3	Downlight	150	Sealed
KITCHEN DINING 03	1	Exhaust Fan	160	Sealed
KLD	13	Downlight	150	Sealed
KLD	1	Exhaust Fan	160	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	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.

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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).

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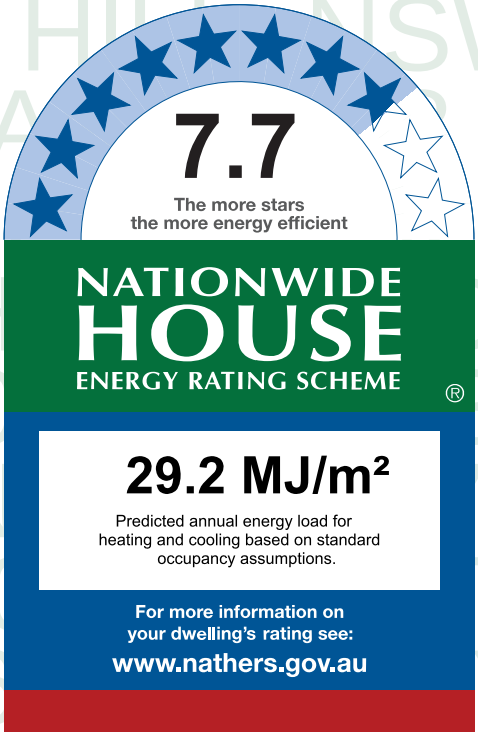

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Total	52.1	56 - Mascot AMO	
Garage	0.0		

Thermal Performance

Heating	Cooling
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MJ/m²	MJ/m²

Accredited assessor

Name	Ioannis Fragkoulidis
Business name	WIDE SPECTRUM PTY LTD
Email	yanni.aenec@gmail.com
Phone	+61 452648288
Accreditation No.	10002
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Foilboard green 15mm to be used for cavity brick walls with 20 reflective

Window and glazed door *type and performance*

Default* windows

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Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
B ROOM 11	ALM-002-01 A	W02	1020	1200	Sliding	45	N	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*
BATH/LAUNDRY	ALM-002-01 A	W03	940	610	Sliding	45	N	None
KLD	ALM-002-01 A	W02	1020	1200	Sliding	45	E	None
KLD	ALM-002-01 A	W01	1197	1200	Sliding	45	S	None
KLD	ALM-002-01 A	W01	1197	1200	Sliding	45	S	None
WIR B11	ALM-002-01 A	W02	1020	1200	Sliding	45	N	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
None					

Roof window *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
KLD	2100	900	90	E

* Refer to glossary.

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
WB-NOCAV	Weatherboard Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.73	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
B ROOM 11	WB-NOCAV	2700	3428	N	420	Yes
B ROOM 11	WB-NOCAV	2700	3133	E	438	Yes
BATH/LAUNDRY	WB-NOCAV	2700	1590	N	420	Yes
KLD	WB-NOCAV	2700	2966	E	438	Yes
KLD	WB-NOCAV	2700	8639	S	422	Yes
WIR B11	WB-NOCAV	2700	3433	N	420	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	36.6	0.00
INT-PB1-Party wall	Internal Plasterboard Stud Party Wall	15.9	4.09

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
B ROOM 11	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	10.7	N/A	2.00	Tile
BATH/LAUNDRY	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	5.0	N/A	2.00	Tile
KLD	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	25.6	N/A	2.00	Tile
WIR B11	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	10.8	N/A	2.00	Tile

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
B ROOM 11	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
BATH/LAUNDRY	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes

* Refer to glossary.

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
KLD	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
WIR B11	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
B ROOM 11	2	Downlight	150	Sealed
BATH/LAUNDRY	1	Downlight	150	Sealed
KLD	4	Downlight	150	Sealed
KLD	1	Exhaust Fan	160	Sealed
WIR B11	2	Downlight	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.50	Medium

* Refer to glossary.

Explanatory Notes

About this report

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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.

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Glossary

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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.
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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.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. #HR-SRA4A7-01

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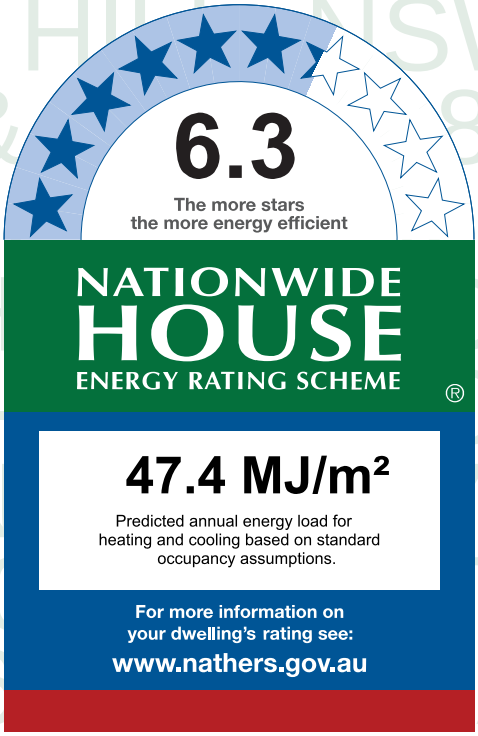

Property

Address	Unit 04, 106 & 108 Chester Hill Road, Bass Hill, NSW, 2197
Lot/DP	B & C/23626
NCC Class*	1a
Type	New

Plans

Main Plan	106B/25.08.2022-DA09
Prepared by	GN

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	25.1	Suburban	
Unconditioned*	7.8	**NatHERS climate zone**	
Total	32.9	56 - Mascot AMO	
Garage	0.0		

Thermal Performance

Heating	Cooling
23.4	**24.0**
MJ/m²	MJ/m²

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.

Accredited assessor

Name	Ioannis Fragkoulidis
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Accreditation No.	10002
Assessor Accrediting Organisation	HERA
Declaration of interest	No Conflict of Interest

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-SRA4A7-01. 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?

Additional Notes

Default ceiling penetration density calculated as lighting plan has not been provided. All openable windows other than located on ground floor or are louvre type (if applicable) are assumed to be fully openable as safety devices (STEEL MESH) are in place. If these are not in place then this Nathers must be revised.
Foilboard green 15mm to be used for cavity brick walls with 20 reflective

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
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
B ROOM	ALM-002-01 A	W01	1197	1200	Sliding	45	W	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*
BATH/LAUNDRY	ALM-002-01 A	W03	940	610	Sliding	45	S	None
KLD	ALM-002-01 A	W02	1020	1200	Sliding	45	S	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
None					

Roof window *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
B ROOM	2100	900	90	N
B ROOM	2100	900	90	W

* Refer to glossary.

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
WB-NOCAV	Weatherboard Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.73	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
B ROOM	WB-NOCAV	2700	4445	N	440	Yes
B ROOM	WB-NOCAV	2700	3875	E	415	Yes
B ROOM	WB-NOCAV	2700	3875	W	458	Yes
BATH/LAUNDRY	WB-NOCAV	2700	2157	S	444	Yes
BATH/LAUNDRY	WB-NOCAV	2700	3603	W	458	Yes
KLD	WB-NOCAV	2700	3603	E	415	Yes
KLD	WB-NOCAV	2700	2196	S	444	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	15.7	0.00

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
B ROOM	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	17.2	N/A	2.00	Tile
BATH/LAUNDRY	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	7.8	N/A	2.00	Tile
KLD	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	7.9	N/A	2.00	Tile

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
B ROOM	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
BATH/LAUNDRY	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
KLD	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
B ROOM	3	Downlight	150	Sealed
BATH/LAUNDRY	2	Downlight	150	Sealed
BATH/LAUNDRY	1	Exhaust Fan	160	Sealed
KLD	2	Downlight	150	Sealed
KLD	1	Exhaust Fan	160	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
KLD	1	2100

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.50	Medium

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Exposure category - exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
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U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
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Nationwide House Energy Rating Scheme
NatHERS Certificate No. #HR-DHVHCF-01

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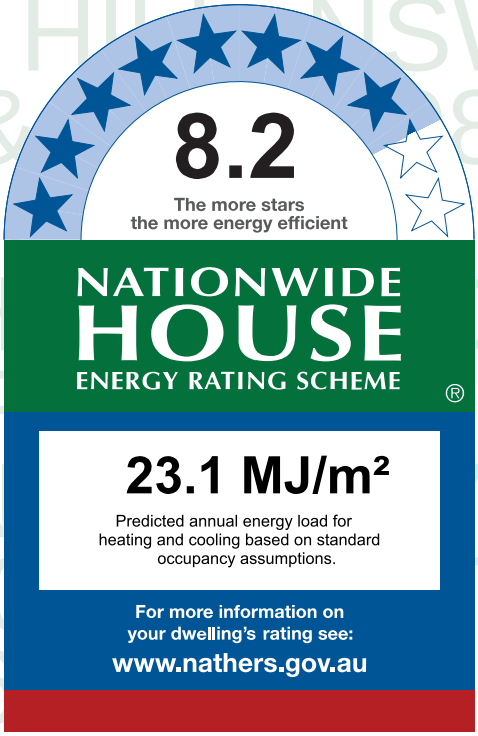

Property

Address	Unit 05, 106 & 108 Chester Hill Road, Bass Hill, NSW, 2197
Lot/DP	B & C/23626
NCC Class*	1a
Type	New

Plans

Main Plan	106B/25.08.2022-DA09
Prepared by	GN

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	45.0	Suburban	
Unconditioned*	5.6	**NatHERS climate zone**	
Total	50.7	56 - Mascot AMO	
Garage	0.0		

Thermal Performance

Heating	Cooling
5.6	**17.5**
MJ/m²	MJ/m²

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.

Accredited assessor

Name	Ioannis Fragkoulidis
Business name	WIDE SPECTRUM PTY LTD
Email	yanni.aenec@gmail.com
Phone	+61 452648288
Accreditation No.	10002
Assessor Accrediting Organisation	HERA
Declaration of interest	No Conflict of Interest

Verification

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National Construction Code (NCC) requirements

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* 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?

Additional Notes

Default ceiling penetration density calculated as lighting plan has not been provided. All openable windows other than located on ground floor or are louvre type (if applicable) are assumed to be fully openable as safety devices (STEEL MESH) are in place. If these are not in place then this Nathers must be revised.
Foilboard green 15mm to be used for cavity brick walls with 20 reflective

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
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
B ROOM 12	ALM-002-01 A	W02	1020	1200	Sliding	45	N	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*
KLD	ALM-002-01 A	W02	1020	1200	Sliding	45	N	None
WIR B12	ALM-002-01 A	W02	1020	1200	Sliding	45	N	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
None					

Roof window *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
KLD	2109	1535	45	W

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
WB-NOCAV	Weatherboard Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.73	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
B ROOM 12	WB-NOCAV	2700	4235	N	419	No
BATH/LAUNDRY 06	WB-NOCAV	2700	1787	E	409	Yes
KLD	WB-NOCAV	2700	3350	N	419	No
KLD	WB-NOCAV	2700	5258	W	428	Yes
WIR B12	WB-NOCAV	2700	2131	N	419	No
WIR B12	WB-NOCAV	2700	2511	E	409	Yes

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	32.3	0.00
INT-PB1-Party wall	Internal Plasterboard Stud Party Wall	28.8	4.09

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
B ROOM 12	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	10.6	N/A	2.00	Tile
BATH/LAUNDRY 06	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	5.6	N/A	2.00	Tile
KLD	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	29.0	N/A	2.00	Tile
WIR B12	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	5.4	N/A	2.00	Tile

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
B ROOM 12	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
BATH/LAUNDRY 06	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
KLD	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
WIR B12	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
B ROOM 12	2	Downlight	150	Sealed
BATH/LAUNDRY 06	1	Downlight	150	Sealed
BATH/LAUNDRY 06	1	Exhaust Fan	160	Sealed
KLD	7	Downlight	150	Sealed
KLD	1	Exhaust Fan	160	Sealed
WIR B12	1	Downlight	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.50	Medium

* Refer to glossary.

Explanatory Notes

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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.

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Glossary

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Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with 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.
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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).

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Nationwide House Energy Rating Scheme
NatHERS Certificate No. #HR-IQDE0S-01

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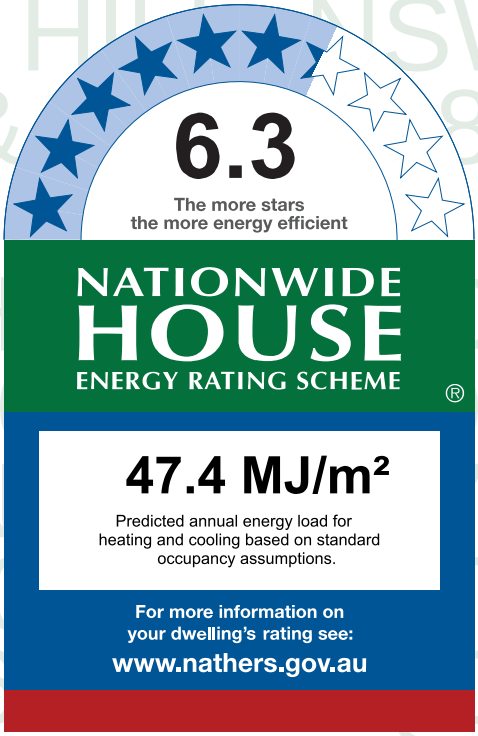

Property

Address	Unit 06, 106 & 108 Chester Hill Road, Bass Hill, NSW, 2197
Lot/DP	B & C/23626
NCC Class*	1a
Type	New

Plans

Main Plan	106B/25.08.2022-DA09
Prepared by	GN

Construction and environment

Assessed floor area (m²)*		**Exposure Type**	
Conditioned*	44.9	Suburban	
Unconditioned*	5.6	**NatHERS climate zone**	
Total	50.5	56 - Mascot AMO	
Garage	0.0		

Thermal Performance

Heating	Cooling
28.8	**18.6**
MJ/m²	MJ/m²

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.

Accredited assessor

Name	Ioannis Fragkoulidis
Business name	WIDE SPECTRUM PTY LTD
Email	yanni.aenec@gmail.com
Phone	+61 452648288
Accreditation No.	10002
Assessor Accrediting Organisation	HERA
Declaration of interest	No Conflict of Interest

Verification

To verify this certificate, scan the QR code or visit http://www.hero-software.com.au/pdf/HR-IQDE0S-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.

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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?

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

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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.

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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".

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Foilboard green 15mm to be used for cavity brick walls with 20 reflective

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
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
B ROOM 13	ALM-002-01 A	W01	1197	1200	Sliding	45	S	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*
KLD	ALM-002-01 A	W02	1020	1200	Sliding	45	S	None
WIR B13	ALM-002-01 A	W01	1197	1200	Sliding	45	S	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
None					

Roof window *schedule*

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

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
KLD	2100	900	90	W

External wall *type*

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
WB-NOCAV	Weatherboard Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.73	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orient-ation	Horizontal shading feature* projection (mm)	Vertical shading feature
B ROOM 13	WB-NOCAV	2700	4235	S		Yes
KLD	WB-NOCAV	2700	3350	S		Yes
KLD	WB-NOCAV	2700	5231	W	428	Yes
WIR B13	WB-NOCAV	2700	2131	S		Yes

Internal wall *type*

Wall ID	Wall Type	Area (m^2)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	32.3	0.00
INT-PB1-Party wall	Internal Plasterboard Stud Party Wall	40.1	4.09

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
B ROOM 13	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	10.6	N/A	2.00	Tile
BATH/LAUNDY 07	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	5.6	N/A	2.00	Tile
KLD	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	28.9	N/A	2.00	Tile
WIR B13	SUSP-CONC-150: Suspended Concrete Slab Floor (150mm)	5.3	N/A	2.00	Tile

Ceiling *type*

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
B ROOM 13	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
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KLD	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes
WIR B13	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	4.00	Yes

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
B ROOM 13	2	Downlight	150	Sealed
BATH/LAUNDY 07	1	Downlight	150	Sealed

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Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
BATH/LAUNDY 07	1	Exhaust Fan	160	Sealed
KLD	7	Downlight	150	Sealed
KLD	1	Exhaust Fan	160	Sealed
WIR B13	1	Downlight	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
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