# Nationwide House Energy Rating Scheme® NatHERS® Certificate No. 8CEFAMKPJ4

Generated on 1 Dec 2024 using FirstRate5: 5.5.5a (3.22)

## **Property**

Address 31 Endeavour Road,

Georges Hall, NSW, 2198

Lot/DP A/401896 NCC Class\* Class 1a

Floor/all Floors

Type New Home

## **Plans**

Main plan 24142/23/07/2024

Prepared by -

## Construction and environment

Assessed floor area [m²]\* Exposure type
Conditioned\* 56.3 suburban

Unconditioned\* 6.6 NatHERS climate zone

Total 62.9 56 Mascot AMO

Garage -



Name NASRIN MORADI ESKANDARI

Business name ecomaxhomes

Email info@ecomaxhomes.com.au

 Phone
 0406184087

 Accreditation No.
 HERA10095

Assessor Accrediting Organisation

HERA

**Declaration of interest** No

# **NCC** Requirements

NCC provisions Volume 2 State/Territory variation Yes

### **National Construction Code (NCC) requirements**

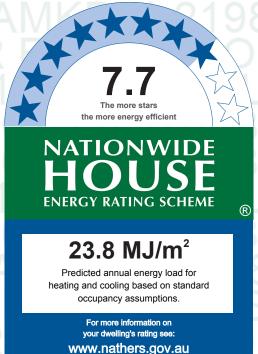
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two.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

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

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

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

# Thermal performance star rating



## Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	19.4	4.4
Load limits	N/A	N/A

## Features determining load limits

Floor type	N/A
(lowest conditioned area)	
NCC climate zone 1 or 2	N/A
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

# Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

### Verification

To verify this certificate, scan the QR code or visit https://w ww.fr5.com.au/QRCodeLand ing?PublicId=8CEFAMKPJ4 When using either link, ensure you are visiting www.fr5.com.au.



## NATIONWIDE HOUSE

## About the ratings

### Thermal performance rating

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

#### Whole of Home performance rating

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

## **Heating & Cooling Load Limits**

#### Additional information

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

#### **Setting options:**

Floor type:

CSOG - Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF)

NA - Not Applicable

NCC climate Zone 1 or 2:

Yes

No

NA - not applicable

Outdoor living area:

Yes

No

NA - not applicable

Outdoor living area ceiling fan:

Yes

No

NA - not applicable



# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

### Energy use:

No Whole of Home performance assessment conducted for this certificate.

#### Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

Certificate check	Approva	stage	Construct stage	tion	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.  Note: The boxes indicate when and who should check each item.	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
It is not mandatory to complete this checklist.	Asse	Cons	Builo	Cons	Occi
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*	I	I		I	I
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof		ı		ı	ı
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?					

	Approval	stage	Construct stage		
Certificate check Continued	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included	in the Na	tHERS a	ssessme	nt)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method	'			'	
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Home per	formance a	ssessmen	t is not con	iducted)	
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the Nath	IERS ass	essment)			
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements		l .			I
Note: This Certificate only covers the energy efficiency requirements in the NCC. A include, but are not limited to: condensation, structural and fire safety requirements energy efficiency requirements.					

#### **Additional notes**

ASSESOR ASSUMED FLOOR COVERING/NEAIGHBOUR / FANCEING

## Room schedule

Room	Zone Type	Area [m²]
Bedroom 1	bedroom	13.7
Bedroom 2	bedroom	11.1
Bathroom	unconditioned	6.6
Kitchen/Living	kitchen	31.5

# Window and glazed door type and performance

Default\* windows

				Substitution to	lerance ranges
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
ALM-002-01 A	Aluminium B SG Clear	6.7	0.7	0.66	0.74
Custom* windows	S			Substitution to	lerance ranges
				Substitution to	ilerance ranges
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Availab	le				

# Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-002-01 A	W01	640	1200	sliding	45.0	N	No
Bedroom 2	ALM-002-01 A	W02	600	1200	sliding	45.0	N	No
Bathroom	ALM-002-01 A	W04	620	400	sliding	45.0	S	No
Kitchen/Living	ALM-002-01 A	W03	640	1920	sliding	45.0	S	No

# Roof window\* type and performance value

Default\* roof windows

No Data Available

				Substitution tolerance ranges		
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Available						
Custom* roof windows						
				Substitution to	lerance ranges	
Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit	

## Roof window\* schedule

7.7 Star Rating as of 1 Dec 2024



Opening Area Width Outdoor Indoor Location Window ID Window no. % [m²] [mm] Orientation shade shade

No Data Available

Skylight\* type and performance

Skylight ID Skylight description Skylight shaft reflectance

No Data Available

Skylight\* schedule

Skylight shaft Area Orient- Outdoor

Location Skylight ID Skylight No. length [mm] [m²] ation shade Diffuser

No Data Available

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Bedroom 1	2100	2500	100.0	W
Kitchen/Living	2100	820	100.0	N
Kitchen/Living	2100	820	100.0	W

External wall type

Wall ID	Wall type	Solar absorptance		[R-value]	Reflective wall wrap*
1	FR5 - Fibro Clad Framed	0.5	Medium	Glass fibre batt: R2.5 (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)
Bedroom 1	1	2495	4191	N	530	Yes
Bedroom 1	1	2495	3440	W	530	No
Bedroom 2	1	2495	3446	Е	0	Yes
Bedroom 2	1	2495	3435	N	530	Yes
Bathroom	1	2250	2477	E	1265	No
Bathroom	1	2495	2660	S	530	Yes
Kitchen/Living	1	2495	7785	S	530	Yes
Kitchen/Living	1	2250	897	E	1265	No
Kitchen/Living	1	2250	2819	N	3651	Yes
Kitchen/Living	1	2495	109	E	0	Yes
Kitchen/Living	1	2495	3562	W	530	Yes

Internal wall type

Wall ID Wall type Area [m²] Bulk insulation

77	Star	Rating	as of	: 1	Dec	2024
1.1	Stai	Raung	as 01	- 1	Dec	2024

HOUSE	

1	FR5 - Internal Plasterboard Stud Wall	30.9	
2	FR5 - Internal Plasterboard Stud Wall	12.6	Glass fibre batt: R2.0 (R2.0)

# Floor type

		Sub-floor	Added insulation	
Construction	Area [m²]	ventilation	[R-value]	Covering
FR5 - 225mm waffle pod, 85mm concrete (R0.60)	13.7	Enclosed	R0.0	Carpet
FR5 - 225mm waffle pod, 85mm concrete (R0.60)	11.1	Enclosed	R0.0	Carpet
FR5 - 225mm waffle pod, 85mm concrete (R0.60)	6.6	Enclosed	R0.0	Tiles
FR5 - 225mm waffle pod, 85mm concrete (R0.60)	31.5	Enclosed	R0.0	Tiles
	FR5 - 225mm waffle pod, 85mm concrete (R0.60) FR5 - 225mm waffle pod, 85mm concrete (R0.60) FR5 - 225mm waffle pod, 85mm concrete (R0.60) FR5 - 225mm waffle pod,	FR5 - 225mm waffle pod, 85mm concrete (R0.60)  FR5 - 225mm waffle pod, 85mm concrete (R0.60)  11.1  FR5 - 225mm waffle pod, 85mm concrete (R0.60)  FR5 - 225mm waffle pod, 85mm concrete (R0.60)  FR5 - 225mm waffle pod,	Construction  FR5 - 225mm waffle pod, 85mm concrete (R0.60)  FR5 - 225mm waffle pod, 31.5 Enclosed	Construction         Area [m²] ventilation         [R-value]           FR5 - 225mm waffle pod, 85mm concrete (R0.60)         13.7         Enclosed         R0.0           FR5 - 225mm waffle pod, 85mm concrete (R0.60)         11.1         Enclosed         R0.0           FR5 - 225mm waffle pod, 85mm concrete (R0.60)         6.6         Enclosed         R0.0           FR5 - 225mm waffle pod, 85mm concrete (R0.60)         31.5         Enclosed         R0.0

# Ceiling type

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Bedroom 1	Plasterboard	R6.0	Yes
Bedroom 2	Plasterboard	R6.0	Yes
Bathroom	Plasterboard	R6.0	Yes
Kitchen/Living	Plasterboard	R6.0	Yes

# Ceiling penetrations\*

Quantity	Туре	Height [mm]	Width [mm]	Sealed/unsealed
2	Downlights	100	100	Sealed
2	Downlights	100	100	Sealed
1	Downlights	100	100	Sealed
1	Exhaust Fans	250	250	Sealed
6	Downlights	100	100	Sealed
1	Exhaust Fans	250	250	Sealed
	2 2 1 1	2 Downlights 2 Downlights 1 Downlights 1 Exhaust Fans 6 Downlights	QuantityType[mm]2Downlights1002Downlights1001Downlights1001Exhaust Fans2506Downlights100	Quantity         Type         [mm]         [mm]           2         Downlights         100         100           2         Downlights         100         100           1         Downlights         100         100           1         Exhaust Fans         250         250           6         Downlights         100         100

# Ceiling fans

Location	Quantity	Diameter [mm]
No Data Available		

# Roof type

	Added insulation	n		
Construction	[R-value]	Solar absorptance	Roof shade [colour]	
Cont:Attic-Continuous	1.3	0.5	Medium	

# Thermal bridging schedule for steel frame elements

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Steel section dimensions

[height x width, mm]

Frame spacing [mm]

Steel thickness [BMT,mm]

Thermal break [R-value]

No Data Available

**Building element** 

## Appliance schedule

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

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

Cooling system

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

No Whole of Home performance assessment conducted for this certificate.

Heating system

Appliance/ system type Location Fuel type performance capacity

No Whole of Home performance assessment conducted for this certificate.

Hot water system

Minimum

efficiency/ Hot Water CER Assessed daily

Appliance/ system type Fuel type performance Zone Zone 3 STC load

No Whole of Home performance assessment conducted for this certificate.

Pool/spa equipment

Appliance/ system type Fuel type Minimum efficiency/ Recommended capacity

No Whole of Home performance assessment conducted for this certificate.

# Onsite renewable energy schedule

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

System type Orientation System size or generation capacity

No Whole of Home performance assessment conducted for this certificate.

## Battery schedule

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

System type Size [battery storage capacity]

No Whole of Home performance assessment conducted for this certificate.

## **Explanatory Notes**

#### About this report

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

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

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### **Accredited assessors**

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

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

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

#### **Disclaimer**

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

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

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

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

## **Glossary**

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
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.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilate corridor in a Class 2 building.
Exposure category – exposed	d 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 –	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
suburban	
Exposure category –	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
protected Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
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.

## 7.7 Star Rating as of 1 Dec 2024

NATIONWIDE HOUSE

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought
	and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is
	not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene
	insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy
	screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features*
	(eg eaves and balconies)