



NatHERS for existing homes

Thermal standardisation and specification document

Nationwide House Energy Rating Scheme®

Version: 20250520

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Acknowledgement of Country

We acknowledge the Traditional Owners of Country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past and present.

About the Nationwide House Energy Rating Scheme (NatHERS)

NatHERS supports improvements to the energy efficiency and comfort of Australia's dwellings by standardising the approach and guidelines for NatHERS accredited software to assess dwellings across Australia.

The Australian Government administers NatHERS on behalf of the Commonwealth and state and territory governments.

For more information visit www.nathers.gov.au

Thermal standardisation and specification document Change Log

Version number (YYYYMMDD)	Comments
20250520	Final for launch External window coverings – correction to values Skylights and roof windows – updates to required inputs Doors – minor updates Wall constructions – internal single brick added Floor coverings – lino added, minor text clarification Airtightness - Ceiling vent value updated

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1 Introduction

Purpose

1.1 This document:

- a. specifies data sets, fixed inputs and validation rules for existing homes
- b. supplements the NatHERS Software Accreditation Protocol for existing homes
- c. sets out the thermal settings which are different to new homes

1.2 This document must be read in conjunction with:

- a. Software standardisation document for new homes - many of the new home settings are also applied to existing homes
- b. Whole of home national calculation method - covers settings for fixed appliances and energy generation and storage
- c. Existing homes technical note

Versioning

1.3 This is a living document. It is continually updated based on feedback and as part of the ongoing improvement process. The change log is at the beginning of the document.

1.4 To ensure you have the latest version, please contact the NatHERS Administrator.

2 Orientation, pitch and year of construction

2.1 The following tables indicate the required User Interface (UI) input fields and the corresponding values to be applied for simplified orientation, pitch and year of construction.

Table 1 - Simplified orientation values

UI input fields			Values applied by software
Orientation (quadrant)			Orientation (degrees)
N	or	337.5° to < 22.5°	0°
NE	or	22.5° to < 67.5°	45°
E	or	67.5° to < 112.5°	90°
SE	or	112.5° to < 157.5°	135°
S	or	157.5° to < 202.5°	180°
SW	or	202.5° to < 247.5°	225°
W	or	247.5° to < 292.5°	270°
NW	or	292.5° to < 337.5°	315°

Table 2 - Simplified pitch values

UI input fields	Values applied by software
Pitch (simplified)	Pitch (degrees)
Flat (0 - < 10°)	5°
Moderate (10 – < 35°)	23°
Steep (≥ 35°)	40°

Table 3 – Class 1 year of construction values

State	Year	Values applied by software
ACT	Any year prior to 1993	Pre-1993
	1993 onwards	Assign to appropriate date range in Table 27
NSW	Any year prior to 2005	Pre-2005
	2005 onwards	Assign to appropriate date range in Table 27
QLD	Any year prior to 2003	Pre-2003
	2003 onwards	Assign to appropriate date range in Table 27
SA	Any year prior to 2003	Pre-2003
	2003 onwards	Assign to appropriate date range in Table 27
TAS	Any year prior to 2003	Pre-2003
	2003 onwards	Assign to appropriate date range in Table 27
VIC	Any year prior to 1991	Pre-1991
	1991 onwards	Assign to appropriate date range in Table 27
WA	Any year prior to 2003	Pre-2003
	2003 onwards	Assign to appropriate date range in Table 27
NT	Any year prior to 2003	Pre-2003
	2003 onwards	Assign to appropriate date range in Table 27

Table 4 - Class 2 year of construction values

State	Year	Values applied by software
ACT	Any year prior to 1998	Pre-1998
	1998 onwards	Assign to appropriate date range in Table 29
NSW	Any year prior to 2005	Pre-2005
	2005 onwards	Assign to appropriate date range in Table 29
QLD	Any year prior to 2006	Pre-2006
	2006 onwards	Assign to appropriate date range in Table 29
SA	Any year prior to 2006	Pre-2006
	2006 onwards	Assigned to appropriate date range in Table 29
TAS	Any year prior to 2006	Pre-2006
	2006 onwards	Assign to appropriate date range in Table 29
VIC	Any year prior to 1991	Pre-1991
	1991 onwards	Assign to appropriate date range in Table 29
WA	Any year prior to 2006	Pre-2006
	2006 onwards	Assign to appropriate date range in Table 29
NT	Any year prior to 2011	Pre-2011
	2011 onwards	Assign to appropriate date range in Table 29

3 Walls, floors, ceilings and roofs

- 3.1 As a minimum, the following standard construction types must be available for selection in the User Interface.

Table 5 – Simplified wall constructions

UI input fields		Values applied by software
Type	Insulation Options ¹	Construction
Brick Veneer	Default or	110 mm extruded clay brick
		40 mm non-reflective air gap
	User specified value	Insulation value applied (if none, assume 90mm non-reflective air gap)
		10 mm plasterboard
Fibre cement clad	Default or	6 mm fibre cement sheet
	User specified value	Insulation value applied (if none, assume 90mm non-reflective air gap)
		10 mm plasterboard
Metal clad	Default or	1 mm steel
	User specified value	Insulation value applied (if none, assume 90mm non-reflective air gap)
		10 mm plasterboard
Timber clad	Default or	19 mm timber (softwood)
	User specified value	Insulation value applied (if none, assume 90mm non-reflective air gap)
		10 mm plasterboard
Externally insulated facade	Default	5mm render (cement sand 1:4)
	User specified value	75 mm EPS
		Insulation value applied (if none, assume 90mm non-reflective air gap)
		10 mm plasterboard
Concrete pre-cast panel		100 mm concrete (2400kg/m ³)
Concrete pre-cast panel - plasterboard		100 mm concrete (2400kg/m ³)
		10 mm plasterboard
Concrete block		190 mm concrete block (core filled 600 ctrs)
Concrete block - plasterboard		190 mm concrete block (core filled 600 ctrs)
		10 mm plasterboard
AAC	Default or	75 mm aerated autoclaved concrete
	User specified value	90 mm non-reflective air gap
		Insulation value applied (if none, assume 90mm non-reflective air gap)
		10 mm plasterboard

¹ Default insulation values to be applied based on building class, location and year of construction are indicated in Table 27 and Table 29. Software also requires a user specified field to allow assessors to input an exact R-value derived from documentation.

UI input fields		Values applied by software
Type	Insulation Options ²	Construction
Cavity/Double brick	Default or	110 mm extruded clay brick
	User specified value	Insulation value applied (if none, assume 40mm non-reflective air gap)
		110 mm extruded clay brick
Cavity brick – plasterboard internally	Default	110 mm extruded clay brick
	User specified value	Insulation value applied (if none, assume 40mm non-reflective air gap)
		110 mm extruded clay brick
		10 mm plasterboard
Reverse brick veneer – fibre cement clad	Default or	6 mm fibre cement sheet
	User specified value	40 mm non-reflective air gap
		Insulation value applied (if none, assume 90mm non-reflective air gap)
		110 mm extruded clay brick
Mud brick		300mm mud brick
Rammed earth		300mm rammed earth
Straw bale - rendered	N/A	450mm straw bale
Internal – Plasterboard stud	Default or	10 mm plasterboard
	User specified value	Insulation value applied (if none, assume 90mm non-reflective air gap)
		10 mm plasterboard
Internal – Brick	N/A	10mm render (cement sand 1:4)
		110 mm extruded clay brick
		10mm render (cement sand 1:4)

² Default insulation values to be applied based on building class, location and year of construction are indicated in Table 27 and Table 29. Software also requires a user specified field to allow assessors to input an exact R-value derived from documentation.

Table 6 – Simplified floor constructions

UI input fields		Values applied by software
Type	Insulation Options ³	Construction
Concrete slab on ground	Default or User specified value	100 mm concrete (2400kg/m ³)
		Insulation value applied
Waffle pod slab	N/A	85 mm concrete (2400kg/m ³)
		175 mm waffle pod
Suspended slab over subfloor	Default or User specified value	150 mm concrete (2400kg/m ³)
		Insulation value applied
		Subfloor zone
Suspended slab over outdoor air	Default or User specified value	150 mm concrete (2400kg/m ³)
		Insulation value applied
Suspended timber over subfloor	Default or User specified value	19 mm timber (mountain ash)
		Insulation value applied
		Subfloor zone
Suspended timber over outdoor air	Default or User specified value	19 mm timber (mountain ash)
		Insulation value applied

Table 7 – Simplified sub floor space ventilation

UI input field	Values applied by software
Type (may be derived from previous entry)	Infiltration metric
Enclosed	Enclosed category – assume no wall cavity Refer to Infiltration Calculations in AccuRate V2.0.2.13 Dong Chen CSIRO Sustainable Ecosystems 9/12/2013
Open	
Very open	

Table 8 – Simplified floor coverings

UI input fields	Values applied by software
None	No covering
Carpet	10mm Carpet + 8mm rubber underlay
Tiles	8mm tiles
Floating floorboards (timber/vinyl/composite)	12mm timber softwood
Lino/Vinyl	3mm linoleum

³ Default values to be applied based on building class, location and year of construction are indicated in Table 27 and Table 29. Software also requires a user specified field to allow assessors to input an exact R-value derived from documentation.

Table 9 - Simplified ceiling and roof constructions

UI input fields		Values applied by software
Type	Insulation Options ⁴	Construction
Attic – metal	Default or User specified value	Roof: Roof space zone with Metal roof (2 mm steel)
		Ceiling: Insulation value applied (if none, assume 90 mm non-reflective air gap)
		Ceiling: 10 mm plasterboard ceiling
Attic – tile	Default or User specified value	Roof: Roof space zone with tiled roof (20 mm clay)
		Ceiling: Insulation value applied (if none, assume 90 mm non-reflective air gap)
		Ceiling: 10 mm plasterboard ceiling
Flat framed/skillion – metal – flat ceiling	Default or User specified value	Metal roof (2 mm steel)
		Insulation value applied (if none, assume 90 mm non-reflective air gap)
		10 mm flat plasterboard ceiling
Flat framed/skillion – tile – flat ceiling	Default or User specified value	Tiled roof (20 mm clay)
		Insulation value applied (if none, assume 90 mm non-reflective air gap)
		10 mm flat plasterboard ceiling
Flat framed/skillion – metal – cathedral ceiling	Default or User specified value	Metal roof (2 mm steel)
		Insulation value applied (if none, assume 90 mm non-reflective air gap)
		10 mm cathedral plasterboard ceiling
Flat framed/skillion – metal – cathedral ceiling	Default or User specified value	Tiled roof (20 mm clay)
		Insulation value applied (if none, assume 90 mm non-reflective air gap)
		10 mm cathedral plasterboard ceiling
Concrete slab – suspended ceiling	Default or User specified value	150 mm concrete
		Insulation value applied (if none, assume 90 mm non-reflective air gap)
		Suspended 10 mm plasterboard ceiling
Concrete slab - exposed	N/A	150 mm concrete

⁴ Default values to be applied based on building class, location and year of construction are indicated in Table 27 and Table 29. Software also requires a user specified field to allow assessors to input an exact R-value derived from documentation.

Table 10 – Simplified roof space ventilation

UI input field			Values applied by software
Ventilation	Sarking	Roof type (may be derived from previous entry in software)	Infiltration metric
Minimum - no dedicated roof space ventilator (equivalent to current 'Standard' setting in AccuRate)	Yes	Continuous (e.g. metal deck)	Refer to Infiltration Calculations in AccuRate V2.0.2.13 Dong Chen CSIRO Sustainable Ecosystems 9/12/2013
		Discontinuous (e.g. tiles)	
	No	Continuous	
		Discontinuous	
Natural - either wind driven roof space ventilator/ ridge caps or eave vents and ridge caps (equivalent to current 'Ventilated' setting in AccuRate)	Yes	Continuous	
		Discontinuous	
	No	Continuous	
		Discontinuous	
Mechanical - eave vents and powered roof space ventilator (equivalent to 'Highly Ventilated' setting in AccuRate)	Yes	Continuous	
		Discontinuous	
	No	Continuous	
		Discontinuous	

4 Windows, skylights, roof windows and doors

- 4.1 The following tables indicate the required User Interface (UI) input fields and the corresponding values to be applied for simplified windows, skylights, roof windows and doors.

Table 11 - Simplified windows

UI inputs				Values applied by software		
Operating Type	Frame material	Glazing type	Glazing Description	NatHERS Code	U Value	SHGC
Group A e.g. Awning Hopper Bi-fold Casement Hinged door Tilt 'n' turn	Aluminium	Single glazing	Clear	ALM-001-01 A	6.7	0.57
			Tinted	ALM-001-02 A	6.6	0.41
			Low-E Clear	ALM-001-03 A	5.4	0.49
			Low-E Tint	ALM-001-04 A	5.6	0.36
		Double glazing – air filled	Clear	ALM-003-01 A	4.8	0.51
			Tinted	ALM-003-02 A	5.2	0.35
			Low-E Clear	ALM-003-03 A	4.3	0.47
			Low-E Tint	ALM-003-04 A	4.9	0.33
		Double glazing – argon filled	Clear	ALM-005-01 A	4.5	0.50
			Tinted	ALM-005-02 A	5.1	0.32
			Low-E Clear	ALM-005-03 A	4.1	0.47
			Low-E Tint	ALM-005-04 A	4.8	0.34
	Timber	Single glazing	Clear	TIM-001-01 W	5.4	0.56
			Tinted	TIM-001-02 W	5.4	0.41
			Low-E Clear	TIM-001-03 W	4.3	0.42
			Low-E Tint	TIM-001-04 W	3.7	0.35
		Double glazing – air filled	Clear	TIM-003-01 W	3.0	0.48
			Tinted	TIM-003-02 W	2.9	0.33
			Low-E Clear	TIM-003-03 W	2.3	0.26
			Low-E Tint	TIM-003-04 W	2.3	0.19
		Double glazing – argon filled	Clear	TIM-005-01 W	2.6	0.50
			Tinted	TIM-005-02 W	2.5	0.25
			Low-E Clear	TIM-005-03 W	2.0	0.25
			Low-E Tint	TIM-005-04 W	2.0	0.18
	uPVC	Single glazing	Clear	PVC-001-01 W	5.4	0.56
			Tinted	PVC-001-02 W	5.4	0.41
			Low-E Clear	PVC-001-03 W	4.3	0.42
			Low-E Tint	PVC-001-04 W	3.7	0.35
		Double glazing – air filled	Clear	PVC-003-01 W	3.0	0.48
			Tinted	PVC-003-02 W	2.9	0.33
			Low-E Clear	PVC-003-03 W	2.3	0.26
			Low-E Tint	PVC-003-04 W	2.3	0.19
		Double glazing – argon filled	Clear	PVC-005-01 W	2.6	0.50
			Tinted	PVC-005-02 W	2.5	0.25
			Low-E Clear	PVC-005-03 W	2.0	0.25
			Low-E Tint	PVC-005-04 W	2.0	0.18
	Composite	Single glazing	Clear	CMP-001-01 I	5.9	0.57

UI inputs				Values applied by software		
Operating Type	Frame material	Glazing type	Glazing Description	NatHERS Code	U Value	SHGC
			Tinted	CMP-001-02 I	6.2	0.41
			Low-E Clear	CMP-001-03 I	4.6	0.36
			Low-E Tint	CMP-001-04 I	4.6	0.36
		Double glazing – air filled	Clear	CMP-003-01 I	3.9	0.51
			Tinted	CMP-003-02 I	3.9	0.32
			Low-E Clear	CMP-003-03 I	3.4	0.47
			Low-E Tint	CMP-003-04 I	3.4	0.32
		Double glazing – argon filled	Clear	CMP-005-01 I	3.9	0.50
			Tinted	CMP-005-02 I	3.9	0.33
			Low-E Clear	CMP-005-03 I	3.2	0.46
			Low-E Tint	CMP-005-04 I	2.2	0.32
	Thermally Broken Aluminium	Double glazing – air filled	Clear	ATB-003-01 B	3.6	0.47
			Tinted	ATB-003-02 B	3.6	0.23
			Low-E Clear	ATB-003-03 B	3.1	0.39
			Low-E Tint	ATB-003-04 B	3.1	0.27
		Double glazing – argon filled	Clear	ATB-005-01 B	3.5	0.47
			Tinted	ATB-005-02 B	3.4	0.32
			Low-E Clear	ATB-005-03 B	2.9	0.44
			Low-E Tint	ATB-005-04 B	3.0	0.27
Group B e.g. Sliding Fixed Double Hung Louvre	Aluminium	Single glazing	Clear	ALM-002-01 A	6.7	0.70
			Tinted	ALM-002-02 A	6.6	0.49
			Low-E High SG	ALM-002-03 A	5.4	0.58
			Low-E Low SG	ALM-002-04 A	5.6	0.41
		Double glazing – air filled	Clear	ALM-004-01 A	4.8	0.59
			Tinted	ALM-004-02 A	5.2	0.39
			Low-E Clear	ALM-004-03 A	4.3	0.53
			Low-E Tint	ALM-004-04 A	4.9	0.33
		Double glazing – argon filled	Clear	ALM-006-01 A	4.5	0.61
			Tinted	ALM-006-02 A	5.1	0.36
			Low-E Clear	ALM-006-03 A	4.1	0.52
			Low-E Tint	ALM-006-04 A	4.8	0.34
	Timber	Single glazing	Clear	TIM-002-01 W	5.4	0.63
			Tinted	TIM-002-02 W	5.4	0.49
			Low-E Clear	TIM-002-03 W	4.3	0.50
			Low-E Tint	TIM-002-04 W	3.7	0.38
		Double glazing – air filled	Clear	TIM-004-01 W	3.0	0.56
			Tinted	TIM-004-02 W	2.9	0.42
			Low-E Clear	TIM-004-03 W	2.3	0.32
			Low-E Tint	TIM-004-04 W	2.3	0.25
		Double glazing – argon filled	Clear	TIM-006-01 W	2.6	0.53
			Tinted	TIM-006-02 W	2.5	0.28
			Low-E Clear	TIM-006-03 W	2.0	0.31
			Low-E Tint	TIM-006-04 W	2.0	0.23

UI inputs				Values applied by software		
Operating Type	Frame material	Glazing type	Glazing Description	NatHERS Code	U Value	SHGC
	uPVC	Single glazing	Clear	PVC-002-01 W	5.4	0.63
			Tinted	PVC-002-02 W	5.4	0.49
			Low-E Clear	PVC-002-03 W	4.3	0.50
			Low-E Tint	PVC-002-04 W	3.7	0.38
		Double glazing – air filled	Clear	PVC-004-01 W	3.0	0.56
			Tinted	PVC-004-02 W	2.9	0.42
			Low-E Clear	PVC-004-03 W	2.3	0.32
			Low-E Tint	PVC-004-04 W	2.3	0.25
		Double glazing – argon filled	Clear	PVC-006-01 W	2.6	0.53
			Tinted	PVC-006-02 W	2.5	0.28
			Low-E Clear	PVC-006-03 W	2.0	0.31
			Low-E Tint	PVC-006-04 W	2.0	0.23
	Composite	Single glazing	Clear	CMP-002-01 I	5.9	0.65
			Tinted	CMP-002-02 I	6.2	0.45
			Low-E Clear	CMP-002-03 I	3.7	0.61
			Low-E Tint	CMP-002-04 I	4.6	0.46
		Double glazing – air filled	Clear	CMP-004-01 I	3.9	0.59
			Tinted	CMP-004-02 I	3.9	0.37
			Low-E Clear	CMP-004-03 I	3.4	0.53
			Low-E Tint	CMP-004-04 I	3.4	0.33
		Double glazing – argon filled	Clear	CMP-006-01 I	3.9	0.63
			Tinted	CMP-006-02 I	3.9	0.40
			Low-E Clear	CMP-006-03 I	3.2	0.49
			Low-E Tint	CMP-006-04 I	2.2	0.39
	Thermally Broken Aluminium	Double glazing – air filled	Clear	ATB-004-01 B	3.6	0.54
			Tinted	ATB-004-02 B	3.6	0.30
			Low-E Clear	ATB-004-03 B	3.1	0.49
			Low-E Tint	ATB-004-04 B	3.1	0.27
		Double glazing – argon filled	Clear	ATB-006-01 B	3.5	0.64
			Tinted	ATB-006-02 B	3.4	0.40
			Low-E Clear	ATB-006-03 B	2.9	0.51
			Low-E Tint	ATB-006-04 B	3.0	0.26

4.2 Each window entered also requires input fields for:

- openability as per Table 12 + user specified precise input
- internal coverings as per Table 16 and Table 17
- external coverings as per Table 18

Table 12 - Simplified window openability

UI inputs	Values applied by software
Type	Openability
Fixed	0%
Openable	45%
Highly openable	90%

Table 13 – Simplified skylights (attic roof)

UI inputs		
Type	Category	Options
Skylight – standard	Azimuth	User input (may be derived from zone details) can be simplified inputs as per Simplified orientation details in Table 1
	Pitch (slope)	User input (may be derived from zone details) can be simplified inputs as per Simplified slope details in Table 2
	Construction	Single glazed clear (NatHERS Default skylight code TBC)
		Single glazed opaque (NatHERS Default skylight code TBC)
		Double glazed clear (NatHERS Default skylight code TBC)
		Double glazed opaque (NatHERS Default skylight code TBC)
		HP (high performance) TBC
	Outdoor shading	User input yes/no (default No)
	Openability	User input Fixed/Openable (default Fixed) Openable - apply 45% openability Fixed - apply 0% openability
	Area	Standard size - 0.5m ²
		Large size - 1.2m ²
		User input
	Shaft length	User input If none apply default 1000mm
	Shaft reflectance	User input If none apply default 0.75
	Shaft insulation (R-value)	User input Yes/No Yes – apply R2.5 No – apply R0 (default)
Skylight - tubular	Azimuth	User input (may be derived from zone details) can be simplified inputs as per Simplified orientation details in Table 1
	Pitch (slope)	User input (may be derived from zone details) can be simplified inputs as per Simplified slope details in Table 2
	Construction	Single glazed clear (NatHERS Default skylight code TBC)
	Outdoor shading	User input yes/no (default No)
	Area	Default 0.09m ² or as per site details
		User input (m ²)
	Shaft length	User input If none apply default 1000mm
	Shaft reflectance	User input If none apply default 0.9
	Shaft insulation (R-value)	User input Yes/No Yes – apply R2.5 No – apply R0 (default)

Table 14 – Simplified roof windows (flat/raked roof)

UI input fields		
Type	Category	Options
Roof window	Azimuth	User input (may be derived from zone details) can be simplified inputs as per Simplified orientation details in Table 1
	Pitch (slope)	User input (may be derived from zone details) can be simplified inputs as per Simplified slope details in Table 2
	Construction	Single glazed (NatHERS Default Roof window code TBC)
		Double Glazed (NatHERS Default Roof window code TBC)
		HP (high performance) (NatHERS Default Roof window code TBC)
	Outdoor shading	User input yes/no (default No)
	Indoor shading	User input yes/no (default No)
	Openability	User input Fixed/Openable (default Fixed) Openable - apply 45% openability Fixed - apply 0% openability
	Area	Standard size - 0.5m ²
		Large size - 1.2m ²
		User input

Table 15 – Simplified doors

UI input fields		Values applied by software	
Type	Size options	Construction	Sizes
Internal Door	Single or Double	5 mm timber 20 mm nominal air gap 5 mm timber	Single: 820 x 2040 mm Double: 1640 x 2040 mm
External Door (not glazed)	Single or Double	50 mm timber	820 x 2100 mm
Steel garage door uninsulated	Single or Double	1 mm steel	Single: 2400 x 2100 mm Double: 4800 x 2100mm
Steel garage door insulated	Single or Double	1 mm steel 50mm EPS - R1.1	Single: 2400 x 2100 mm Double: 4800 x 2100mm

5 Window coverings

- 5.1 When inputting internal window coverings into the software assessors must enter the type of window covering as per the selections in Table xx and may also enter the 4 x window covering characteristics: outside appearance, light transmittance, fit and insulation level (see Table 17) and the software derives the required values for Chenath i.e. solar transmittance T_s , solar absorptance A_s and additional thermal resistance ΔR . If the 4 characteristics have not been entered by the assessor, default values will be applied based on window covering type only.
- 5.2 Default value: no covering

Table 16 - Window covering type used to derive calculation values

UI input fields		Values applied by software		
Window Covering Type	Default characteristics applied as per Table 17	Solar transmittance (T_s)	Solar absorptance (A_s)	Additional thermal resistance (ΔR)
holland blinds (roller)	dark, some light, medium, less insulating	0.10	0.80	0.05
venetian blinds	dark, little to no light, loose, less insulating	0.00	0.85	0.05
roman blinds	dark, some light, medium, less insulating	0.10	0.80	0.05
vertical blinds	dark, little to no light, loose, less insulating	0.00	0.85	0.05
honeycomb blinds	dark, some light, close fitting, more insulating	0.10	0.80	0.15
plantation shutters	dark, little to no light, medium, more insulating	0.00	0.85	0.10
open weave curtains	dark, a lot of light, loose, less insulating	0.35	0.40	0.05
close weave curtains	dark, some light, loose, less insulating	0.10	0.80	0.05
heavy drapes	Dark, little to no light, loose, more insulating	0.00	0.85	0.05

Table 17 – Window covering characteristics used to derive calculation values

UI input fields				Values applied by software		
Outside appearance (colour)	Light transmittance	Window covering fit	Insulative value	Solar transmittance (T_s)	Solar absorptance (A_s)	Additional thermal resistance (ΔR)
No covering	-	-	-	1.0	0.0	0.0
Bright metallic	Little to no light	Loose	More insulating ⁵	0.00	0.30	0.05
		Medium	More insulating	0.00	0.30	0.10
		Close fitting	More insulating	0.00	0.30	0.15

⁵ If the outside appearance is Bright metallic this can only be 'more insulating' due to it's low emittance value.

UI input fields				Values applied by software		
Outside appearance (colour)	Light transmittance	Window covering fit	Insulative value	Solar transmittance (T _s)	Solar absorptance (A _s)	Additional thermal resistance (ΔR)
	Some light	Fully enclosed	More insulating	0.00	0.30	0.35
		Loose	More insulating	0.06	0.24	0.05
		Medium	More insulating	0.06	0.24	0.10
		Close fitting	More insulating	0.06	0.24	0.15
		Fully enclosed	More insulating	0.06	0.24	0.35
	A lot of light	Loose	More insulating	0.06	0.24	0.05
		Medium	More insulating	0.06	0.24	0.10
		Close fitting	More insulating	0.06	0.24	0.15
		Fully enclosed	More insulating	0.06	0.24	0.35
Light colour	Little to no light	Loose	Less insulating	0.00	0.25	0.05
			More insulating	0.00	0.25	0.05
		Medium	Less insulating	0.00	0.25	0.05
			More insulating	0.00	0.25	0.10
		Close fitting	Less insulating	0.00	0.25	0.10
			More insulating	0.00	0.25	0.15
		Fully enclosed	Less insulating	0.00	0.25	0.25
			More insulating	0.00	0.25	0.35
	Some light	Loose	Less insulating	0.25	0.10	0.05
			More insulating	0.25	0.10	0.05
		Medium	Less insulating	0.25	0.10	0.05
			More insulating	0.25	0.10	0.10
		Close fitting	Less insulating	0.25	0.10	0.10
			More insulating	0.25	0.10	0.15
		Fully enclosed	Less insulating	0.25	0.10	0.25
			More insulating	0.25	0.10	0.35
	A lot of light	Loose	Less insulating	0.55	0.05	0.05
			More insulating	0.55	0.05	0.05
		Medium	Less insulating	0.55	0.05	0.05
			More insulating	0.55	0.05	0.10
		Close fitting	Less insulating	0.55	0.05	0.10
			More insulating	0.55	0.05	0.15
		Fully enclosed	Less insulating	0.55	0.05	0.25
			More insulating	0.55	0.05	0.35
Medium colour	Little to no light	Loose	Less insulating	0.00	0.50	0.05
			More insulating	0.00	0.50	0.05
		Medium	Less insulating	0.00	0.50	0.05
			More insulating	0.00	0.50	0.10
		Close fitting	Less insulating	0.00	0.50	0.10
			More insulating	0.00	0.50	0.15
			More insulating	0.00	0.50	0.15

UI input fields				Values applied by software		
Outside appearance (colour)	Light transmittance	Window covering fit	Insulative value	Solar transmittance (T _s)	Solar absorptance (A _s)	Additional thermal resistance (ΔR)
	Some light	Fully enclosed	Less insulating	0.00	0.50	0.25
			More insulating	0.00	0.50	0.35
		Loose	Less insulating	0.20	0.30	0.05
			More insulating	0.20	0.30	0.05
		Medium	Less insulating	0.20	0.30	0.05
			More insulating	0.20	0.30	0.10
		Close fitting	Less insulating	0.20	0.30	0.10
			More insulating	0.20	0.30	0.15
		Fully enclosed	Less insulating	0.20	0.30	0.25
			More insulating	0.20	0.30	0.35
	A lot of light	Loose	Less insulating	0.45	0.20	0.05
			More insulating	0.45	0.20	0.05
		Medium	Less insulating	0.45	0.20	0.05
			More insulating	0.45	0.20	0.10
		Close fitting	Less insulating	0.45	0.20	0.10
			More insulating	0.45	0.20	0.15
		Fully enclosed	Less insulating	0.45	0.20	0.25
			More insulating	0.45	0.20	0.35
Dark colour	Little to no light	Loose	Less insulating	0.00	0.85	0.05
			More insulating	0.00	0.85	0.05
		Medium	Less insulating	0.00	0.85	0.05
			More insulating	0.00	0.85	0.10
		Close fitting	Less insulating	0.00	0.85	0.10
			More insulating	0.00	0.85	0.15
		Fully enclosed	Less insulating	0.00	0.85	0.25
			More insulating	0.00	0.85	0.35
	Some light	Loose	Less insulating	0.10	0.80	0.05
			More insulating	0.10	0.80	0.05
		Medium	Less insulating	0.10	0.80	0.05
			More insulating	0.10	0.80	0.10
		Close fitting	Less insulating	0.10	0.80	0.10
			More insulating	0.10	0.80	0.15
		Fully enclosed	Less insulating	0.10	0.80	0.25
			More insulating	0.10	0.80	0.35
	A lot of light	Loose	Less insulating	0.35	0.40	0.05
			More insulating	0.35	0.40	0.05
		Medium	Less insulating	0.35	0.40	0.05
			More insulating	0.35	0.40	0.10
		Close fitting	Less insulating	0.35	0.40	0.10
			More insulating	0.35	0.40	0.15
		Fully enclosed	Less insulating	0.35	0.40	0.25
			More insulating	0.35	0.40	0.35

Table 18 – Simplified external window coverings

UI input fields		Values applied by software	
Type		Shade factor	
None (default)		0%	
External blind		70%	

6 Colours

Table 19 – Simplified/default colours

UI input fields		Values applied by software
Construction type	Colour	Solar absorptance value
Roof	Light	0.3
	Medium	0.5
	Dark	0.85
External walls	Light	0.3
	Medium	0.5
	Dark	0.85
Internal walls	Medium (locked setting)	0.5
Floors	Medium (locked setting)	0.5
Window frame colours	Medium (locked setting)	0.5
Doors	Medium (locked setting)	0.5

7 Airtightness

7.1 There are two methods for airtightness values to be entered into the software:

7.1.1 Method 1 - the user enters a blower door test result expressed in terms of the air permeability of the building envelope in $\text{m}^3/\text{hr.m}^2$ i.e. the cubic meters per hour of air leakage for every square metre of building envelope (floor, ceiling, and walls).

7.1.2 Method 2 – the user enters air leakage sources based on visual assessment – see Table 20 for required inputs.

7.2 Where a blower door test result is used, this overrides all visual assessment inputs. The software must provide fields for both options.

Table 20 - Standard/default air leakage sources (visual assessment)

UI input fields			Values applied by software		
Type	Description 1	Count per zone	Stack infiltration factor	Wind infiltration factor	Calculation (per zone)
Background air leakage (no user input – hidden value)			0.011554	0.003851	multiply by zone area
Recessed downlights	Sealed	User specified	0.0	0.0	multiply by number of
	Minimal	User specified	0.151	0.0	multiply by number of
	Moderate	User specified	0.555	0.0	multiply by number of
	Large	User specified	1.00909	0.0	multiply by number of
Exhaust fans/ Rangehoods (assume vented to attic)	Sealed (default for rangehoods)	User specified	1.12	0.0	multiply by number of
	Unsealed (default for exhaust fans)	User specified	5.6	0.0	multiply by number of
Wall vents	-	User specified	1.39	1.193555	multiply by number of
Ceiling vent	-	User specified	1.39	0.0	multiply by number of
Chimney	no damper (default)	User specified	16.7	72.41294	multiply by number of
	with damper	User specified	1.002	4.34478	multiply by number of

UI input fields			Values applied by software		
Type	Description 1	Count per zone	Stack infiltration factor	Wind infiltration factor	Calculation (per zone)
Evaporative cooler duct outlets	-	User specified	14.887	12.783	Zone value calculated using total no. of outlets and floor area of entire dwelling
External Doors	Sealed	-	0.25434	0.08478	multiply by number of, add to Y, multiplied by 1.5
	Unsealed (default)	-	2.79778	0.93259	multiply by number of, add to X, multiplied by 1.5
	Y (for calc purposes only)	-	0.011556	0.003852	-
	X (for calc purposes only)	-	0.027733	0.009245	-
Windows	Sealed	-	0.032354	0.010785	1.5 x window area/ total window area x zone floor area
	Unsealed (default)	-	0.157153	0.052384	1.5 x window area/ total window area x zone floor area
Floorboard gaps	No (default)	-	0.0	0.0	-
	Yes	-	17.11	0.0	-
Skirting board gaps	No (default)		0.0	0.0	-
	Yes	-	17.11	0.0	-
Gaps and cracks in general construction	No (default)		0.0	0.0	-
	Yes		1.6654	0.0	-
Holes/ fixed open louvre windows	Area of opening (cm)		Added as permanent opening	-	-

7.3 Note that the default wall vent size to apply is 245mm (W) x 145mm (H)

8 Ceiling Fans

Table 21 - Simplified ceiling fans

UI input fields	Values applied by software
Size	Size (mm)
900 mm	900
1200 mm (default)	1200
1400 mm	1400

9 Shading

- 9.1 Software should allow both exact and simplified shading inputs.
- 9.2 Simplified input values and the values applied by the software are shown for horizontal shading and vertical shading in Table 22 and Table 23 respectively.

Table 22 – Simplified horizontal shading inputs

UI input fields		Values applied by software
Shading feature input	Range	Measurement (mm)
Projection of eave or overhang	0 - < 300 mm	150
	300 - < 600 mm	450
	600 - < 900 mm	750
	900 - < 1200 mm	1050
	1200 - < 1500 mm	1350
	1500 - < 1800 mm	1650
	1800 - < 2100 mm	1950
	≥ 2100 mm	2100
Vertical offset	< 500mm	0
	500 - < 800 mm	650
	800 - < 1100 mm	950
	1100 - < 1400 mm	1250
	≥ 1400 mm	1550
Length of the overhang (no input required)		= width of the wall or window + the depth of the eave or overhang multiplied by 2
Horizontal offset (no input required)		= same as the depth of the eave or overhang

Table 23 – Simplified vertical shading inputs

UI input fields		Values applied by software
Shading feature input	Description/ Category	Measurement (m)
Height	Fence	1.8 m
	Single storey (2-4m)	3.0 m
	2 storey (5-7m)	6.0 m
	3 storey (8-10m)	9.0 m
	4-6 storeys (11-20m)	15 m
	7+ storeys (20m+)	25 m
Distance	< 1 m	0.75 m
	1 – 2.5 m	1.75 m
	2.5 – 5 m	3.75 m
	5 – 10 m	7.5 m
	10m +	15 m
Horizontal offset	Shade feature is predominantly to the right	= Shade feature width minus wall/window width
	Shade feature is approximately centred	= (Shade feature width minus wall/window width) x 1/2
	Shade feature is predominantly to the left	= 0
Width of the shade feature (no user input required – use Horizontal offset category selection and apply appropriate value)	Shade feature is predominantly to the right	Wall/window width + 5m
	Shade feature is approximately centred	Wall/window width + 10m
	Shade feature is predominantly to the left	Wall/window width + 5m

10 Insulation

10.1 There are two methods for insulation values to be entered for walls, floors, ceiling and roofs.

10.1.1 User specified value through either direct R-value input or derived from input of insulation type and thickness to allow calculation of R-value in the software. See Table 24 for values applied by the software. Note that a reduction factor will also be applied to ceiling insulation values – see Table 26.

10.1.2 Default value through input of building class, location (state and NCC climate zone) and year of construction which allows calculation of R-value in the software. See Table 27 and Table 29 for values applied by the software.

10.2 For dwellings in Class 1 or Class 2 multi-dwelling buildings, such as terraces, duplexes or apartments, where a wall, floor or ceiling has a neighbouring dwelling, no insulation is assumed.

Table 24 – User specified insulation R-values

UI input fields			Values applied by software
Category	Type	Thickness/depth (mm)	R-Value
Batt	Glass fibre (Default)	50 (default)	1.14
		100	2.27
		150	3.41
		200	4.55
		250	5.68
		300	6.82
	Polyester	50 (default)	1.11
		100	2.22
		150	3.33
		200	4.44
		250	5.56
		300	6.67
	Rockwool	50 (default)	1.52
		100	3.03
		150	4.55
		200	6.06
		250	7.58
		300	9.09
	Wool/polyester	50 (default)	1.11
		100	2.22
		150	3.33
		200	4.44
		250	5.56
		300	6.67
Loose fill	Cellulose fibre	50 (default)	1.25
		100	2.5
		150	3.75
		200	5.0
		300	7.5
		400	10
		500	12.5
	Rockwool	50 (default)	1.25
		100	2.5
		150	3.75
		200	5.0
		300	7.5
		400	10.0
		500	12.5
	Wool	100 (default)	1.25
		150	1.88
		200	2.5
		300	3.75

UI input fields			Values applied by software
Category	Type	Thickness/depth (mm)	R-Value
Board		400	5.0
		500	6.25
	Expanded Polystyrene (EPS) (Default)	20 (default)	0.51
		30	0.77
		40	1.03
		50	1.28
		75	1.92
		100	2.56
	Extruded Polystyrene (XPS)	20 (default)	0.71
		30	1.07
		40	1.43
		50	1.79
		75	2.68
		100	3.57
	Polyisocyanurate (PIR)	20 (default)	0.91
		30	1.36
		40	1.82
		50	2.27
		75	3.41
		100	4.56
Sarking (reflective)			Reflective roof space

Table 25 - Ceiling penetration insulation clearances

UI input field	Values applied by the software
Unsealed recessed downlight	90mm diameter + 50mm insulation clearance
Ceiling exhaust fan/rangehood/fan light heater	250mm diameter + 50mm insulation clearance
Ceiling vent/ceiling rose	250mm diameter + 50mm insulation clearance
Chimney/fireplace	500mm x 350mm + 50mm insulation clearance

Table 26 - Ceiling insulation reduction factors

UI input fields		Values applied by software
R-value (may be derived from insulation input values)	Category (% insulation missing)	Reduction factor
≤ R3	No gaps - 0%	0
	Minor - 0% to < 2%	20%
	Moderate - 2% to < 4% (Default)	33%
	Significant - 4% to < 8%	51%
	Very significant - ≥ 8%	62%
R3 to ≤ R5	No gaps - 0%	0
	Minor - 0% to < 2%	25%
	Moderate - 2% to < 4% (Default)	40%
	Significant - 4% to < 8%	58%
	Very significant - ≥ 8%	69%
>R5	No gaps - 0%	0
	Minor - 0% to < 2%	32%
	Moderate - 2% to < 4% (Default)	49%
	Significant - 4% to < 8%	67%
	Very significant - ≥ 8%	76%

Table 27 – Class 1 default insulation R-values

UI input fields			Values applied by software		
State	NCC climate zones	Year of construction	Roof / Ceiling	External wall	Suspended floor ⁶
ACT	7	Pre 1993	1.0	None	None
		1993 - 2005	3.0	1.5	1.0
		2006 - 2009	3.5	2.0	1.5
		2010 – 2019	4.0	2.5	2.5
		2020-present	4.5	2.5	2.5
NSW	2	Pre 2005	None	None	None
		2005	2.0	1.0	1.0

⁶ See Table 28 for concrete slab/waffle pod on ground floors

UI input fields			Values applied by software		
State	NCC climate zones	Year of construction	Roof / Ceiling	External wall	Suspended floor ⁶
NSW	4	2006-2010	2.5	1.5	1.0
		2011-present	4.0	2.5	1.0
		Pre 2005	None	None	None
		2005	2.5	1.5	1.0
		2006-2010	3.0	2.0	1.0
		2011-present	4.0	2.5	2.0
NSW	5	Pre 2005	1.0	None	None
		2005	2.5	1.0	1.0
		2006-2010	3.0	1.5	1.0
		2011-present	4.0	2.5	1.0
NSW	6	Pre 2005	1.0	None	None
		2005	3.0	1.5	1.0
		2006-2010	3.0	2.0	1.0
		2011-2019	4.0	2.5	2.0
		2020 present	4.5	2.5	2.0
NSW	7	Pre 2005	1.0	None	None
		2005	3.0	1.5	1.0
		2006-2010	3.5	2.0	1.5
		2011-2019	4.0	2.5	2.0
		2020-present	4.5	2.5	2.0
NSW	8	Pre 2005	1.0	None	None
		2005	3.5	2.5	2.0
		2006-2010	4.0	3.0	2.0
		2011-present	6.0	3.5	3.0
QLD	1	Pre 2003	None	None	None
		2003-2008	2.0	1.0	1.0
		2009	2.5	1.5	1.0
		2010-present	3.0	2.5	1.5
QLD	2	Pre 2003	None	None	None
		2003-2008	2.0	1.0	1.0
		2009	2.5	1.5	1.0
		2010-present	4.0	2.5	1.0
QLD	3	Pre 2003	None	None	None
		2003-2008	2.0	1.0	1.0
		2009	2.5	1.5	1.0
		2010-present	4.0	2.5	1.5
QLD	5	Pre 2003	1.0	None	None
		2003-2008	2.5	1.0	1.0
		2009	3.0	1.5	1.0
		2010-present	4.0	2.5	1.0
SA	4	Pre 2003	None	None	None
		2003-2005	2.5	1.5	1.0

UI input fields			Values applied by software		
State	NCC climate zones	Year of construction	Roof / Ceiling	External wall	Suspended floor ⁶
SA	5	2006-2009	3.0	1.5	1.0
		2010-present	4.0	2.5	2.0
		Pre 2003	1.0	None	None
		2003-2005	2.5	1.0	1.0
		2006-2009	3.0	1.5	1.0
SA	6	2010-present	4.0	2.5	1.0
		Pre 2003	1.0	None	None
		2003-2005	2.5	1.5	1.0
		2006-2009	3.0	1.5	1.0
		2010-2019	4.0	2.5	2.0
TAS	7	2020-present	4.5	2.5	2.0
		Pre 2003	1.0	None	None
		2003-2009	3.5	1.5	1.0
		2010-2013	4.0	2.0	1.5
		2014-2019	4.0	2.5	2.5
TAS	8	2020-present	4.5	2.5	2.5
		Pre 2003	1.0	None	None
		2003-2009	3.5	2.5	2.0
		2010-2013	4.0	3.0	2.0
VIC	4	2014-present	6.0	3.5	3.0
		Pre 1991	None	None	None
		1991- 2005	2.0	1.0	None
		2006-2010	3.0	1.5	1.0
VIC	6	2011-present	4.0	2.5	2.0
		Pre 1991	1.0	None	None
		1991- 2005	2.0	1.0	None
		2006-2010	3.0	1.5	1.0
		2011-2019	4.0	2.5	2.0
VIC	7	2020-present	4.5	2.5	2.0
		Pre 1991	1.0	None	None
		1991-2005	2.0	1.0	1.0
		2006-2010	4.0	2.0	1.5
		2011- 2019	4.0	2.5	2.5
VIC	8	2020-present	4.5	2.5	2.5
		Pre 1991	1.0	None	None
		1991- 2005	2.0	1.0	1.0
		2006-2010	3.5	2.5	2.0
		2011- 2019	4.0	3.0	2.0
WA	1	2020-present	6.0	3.5	3.0
		Pre 2003	None	None	None
		2003-2005	2.0	1.0	1.0
		2006-2010	2.0	1.5	1.0
		2011-present	3.0	2.5	1.5

UI input fields			Values applied by software		
State	NCC climate zones	Year of construction	Roof / Ceiling	External wall	Suspended floor ⁶
WA	3	Pre 2003	None	None	None
		2003-2005	2.0	1.0	1.0
		2006-2010	2.5	1.5	1.0
		2011-present	4.0	2.5	1.5
WA	4	Pre 2003	None	None	None
		2003-2005	2.5	1.5	1.0
		2006-2010	3.0	2.0	1.0
		2011-present	4.0	2.5	2.0
WA	5	Pre 2003	1.0	None	None
		2003-2005	2.5	1.0	1.0
		2006-2010	3.0	1.5	1.0
		2011-present	4.0	2.5	1.0
WA	6	Pre 2003	1.0	None	None
		2003-2005	2.5	1.5	1.0
		2006-2010	3.0	2.0	1.0
		2011-2019	4.0	2.5	2.0
		2020-present	4.5	2.5	2.0
NT	1	Pre 2003	None	None	None
		2003-2005	2.0	1.0	1.0
		2006-2009	2.5	1.5	1.0
		2010-present	2.5	1.5	1.0
NT	3	Pre 2003	None	None	None
		2003-2005	2.0	1.0	1.0
		2006-2009	2.0	1.0	1.0
		2010-present	2.5	1.5	1.0

Tan J (2022), Minimum insulation values for building fabric of class 1 buildings, CSIRO, Australia.
<https://publications.csiro.au/publications/publication/Plcsiro:EP2022-3414>

Table 28 - Class 1 default insulation R-values - concrete slab/waffle pod

UI input fields	Values applied by software		
Type	Insulation	Slab thickness	R-value
Waffle pod	175 mm waffle (Default)	85 mm (default)	0.56
Concrete slab on ground	None (Default)	100 mm (default)	0.0

Table 29 – Class 2 default insulation R-values

UI input fields			Values applied by software ⁷									
State	NCC climate zone	Year of construction	Roof / Ceiling	External Wall				Floor				
				Framed	Masonry	Masonry w/ furring channel	Concrete w/ furring channel	CSOG	Susp. over unenclosed ⁸ subfloor with carpet	Susp. over unenclosed subfloor without carpet	Susp. over enclosed ⁹ subfloor with carpet	Susp. over enclosed subfloor without carpet
ACT	7	Pre 1998	1.0	0	0	0	0	0	0	0	0	0
		1998 - 2005	2.0	1.5	1.5	1.5	1.5	0	0	0	0	0
		2006 - 2010	3.5	1.5	1.0	1.0	1.0	0	0.5	1.0	0	0
		2011 – 2023	3.5	2.5	2.5	1.0	1.0	0	1.0	1.5	1.0	1.5
		2024-present	2.5	2.0	2.0	2.0	2.0	0.64	2.0	2.0	2.0	2.0
	8	Pre 1998	1.0	0	0	0	0	0	0	0	0	0
		1998 - 2005	2.0	1.5	1.5	1.5	1.5	0	0	0	0	0
		2006 - 2010	4.0	2.5	1.0	1.0	1.0	0	1.5	2.0	0	0
		2011 – 2023	4.5	3.5	3.5	3.5	3.5	1.0	1.5	2.0	1.0	1.5
		2024-present	2.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
NSW	2	Pre 2005	0	0	0	0	0	0	0	0	0	0
		2005-2010	2.0	0	0	0	0	0	0	0	0	0
		2011-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0.5	1.0

⁷ Only applied where the adjacency is not neighbour

⁸ Unenclosed subfloor includes the NatHERS floor adjacency categories: Subfloor open, Subfloor very open and Outdoor Air.

⁹ Enclosed subfloor refers to the NatHERS floor adjacency category: Subfloor enclosed

UI input fields			Values applied by software ⁷									
State	NCC climate zone	Year of construction	Roof / Ceiling	External Wall				Floor				
				Framed	Masonry	Masonry w/ furring channel	Concrete w/ furring channel	CSOG	Susp. over unenclosed ⁸ subfloor with carpet	Susp. over unenclosed subfloor without carpet	Susp. over enclosed ⁹ subfloor with carpet	Susp. over enclosed subfloor without carpet
		2024-present	4.0	1.5	1.5	1.5	1.5	0	2.0	2.0	0.5	0.5
NSW	4	Pre 2005	0	0	0	0	0	0	0	0	0	0
		2005-2010	2.5	1.5	0	0	0	0	0	0	0	0
		2011-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0
		2024-present	2.5	2.0	2.0	2.0	2.0	0	1.5	1.5	1.0	1.0
NSW	5	Pre 2005	1.0	0	0	0	0	0	0	0	0	0
		2005-2010	2.5	1.0	0	0	0	0	0	0	0	0
		2011-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0
		2024-present	4.0	1.5	1.5	1.5	1.5	0	2.0	2.0	1.0	1.0
NSW	6	Pre 2005	1.0	0	0	0	0	0	0	0	0	0
		2005-2010	3.0	1.5	1.0	1.0	1.0	0	0.5	1.0	0	0
		2011-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0.5	0.5
		2024-present	3.5	1.5	1.5	1.5	1.5	0.64	2.0	2.0	1.5	1.5
NSW	7	Pre 2005	1.0	0	0	0	0	0	0	0	0	0
		2005-2010	3.5	1.5	1.0	1.0	1.0	0	0.5	1.0	0	0
		2011-2023	3.5	2.5	2.5	1.0	1.0	0	1.0	1.5	1.0	1.5
		2024-present	2.5	2.0	2.0	2.0	2.0	0.64	2.0	2.0	2.0	2.0
NSW	8	Pre 2005	1.0	0	0	0	0	0	0	0	0	0
		2005-2010	4.0	2.5	1.0	1.0	1.0	0	1.5	2.0	0	0

UI input fields			Values applied by software ⁷									
State	NCC climate zone	Year of construction	Roof / Ceiling	External Wall				Floor				
				Framed	Masonry	Masonry w/ furring channel	Concrete w/ furring channel	CSOG	Susp. over unenclosed ⁸ subfloor with carpet	Susp. over unenclosed subfloor without carpet	Susp. over enclosed ⁹ subfloor with carpet	Susp. over enclosed subfloor without carpet
		2011-2023	4.5	3.5	3.5	3.5	3.5	1.0	1.5	2.0	1.0	1.5
		2024-present	2.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2024	2.0	0	0	0	0	0	0	0	0	0
QLD	1	2025 onward	3.0	1.5	1.5	1.5	1.5	0	0	0	0	0
		Pre 2006	0	0	0	0	0	0	0	0	0	0
		2006-2024	2.0	0	0	0	0	0	0	0	0	0
		2025 onward	4.0	1.5	1.5	1.5	1.5	0	2.0	2.0	0.5	0.5
QLD	2	Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2024	2.0	0	0	0	0	0	0	0	0	0
		2025 onward	4.5	1.5	1.5	1.5	1.5	0	1.5	1.5	0	0
		Pre 2006	1.0	0	0	0	0	0	0	0	0	0
QLD	3	2006-2024	2.0	0	0	0	0	0	0	0	0	0
		2025 onward	4.5	1.5	1.5	1.5	1.5	0	1.5	1.5	0	0
		Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2024	2.5	1.0	0	0	0	0	0	0	0	0
QLD	5	2025 onward	4.0	1.5	1.5	1.5	1.5	0	2.0	2.0	1.0	1.0
		Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2010	2.5	1.5	0	0	0	0	0	0	0	0
		2011-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0
SA	4	2024-present	2.5	2.0	2.0	2.0	2.0	0	1.5	1.5	1.0	1.0
		Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2010	2.5	1.5	0	0	0	0	0	0	0	0
		2011-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0
SA	5	2024-present	2.5	2.0	2.0	2.0	2.0	0	1.5	1.5	1.0	1.0
		Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2010	2.5	1.5	0	0	0	0	0	0	0	0
		2011-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0

UI input fields			Values applied by software ⁷									
State	NCC climate zone	Year of construction	Roof / Ceiling	External Wall				Floor				
				Framed	Masonry	Masonry w/ furring channel	Concrete w/ furring channel	CSOG	Susp. over unenclosed ⁸ subfloor with carpet	Susp. over unenclosed subfloor without carpet	Susp. over enclosed ⁹ subfloor with carpet	Susp. over enclosed subfloor without carpet
		2006-2010	2.5	1.0	0	0	0	0	0	0	0	0
		2011-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0
		2024-present	4.0	1.5	1.5	1.5	1.5	0	2.0	2.0	1.0	1.0
SA	6	Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2010	3.0	1.5	1.0	1.0	1.0	0	0.5	1.0	0	0
		2011-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0.5	0.5
		2024-present	3.5	1.5	1.5	1.5	1.5	0.64	2.0	2.0	1.5	1.5
TAS	7	Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2013	3.5	1.5	1.0	1.0	1.0	0	0.5	1.0	0	0
		2014-present	3.5	2.5	2.5	1.0	1.0	0	1.0	1.5	1.0	1.5
TAS	8	Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2013	4.0	2.5	1.0	1.0	1.0	0	1.5	2.0	0	0
		2014-present	4.5	3.5	3.5	3.5	3.5	1.0	1.5	2.0	1.0	1.5
VIC	4	Pre 1991	0	0	0	0	0	0	0	0	0	0
		1991- 2004	2.5	1.0	0	0	0	0	0	0	0	0
		2005-2011	2.5	1.5	0	0	0	0	0	0	0	0
		2012-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0
		2024-present	2.5	2.0	2.0	2.0	2.0	0	1.5	1.5	1.0	1.0
VIC	6	Pre 1991	1.0	0	0	0	0	0	0	0	0	0

UI input fields			Values applied by software ⁷									
State	NCC climate zone	Year of construction	Roof / Ceiling	External Wall				Floor				
				Framed	Masonry	Masonry w/ furring channel	Concrete w/ furring channel	CSOG	Susp. over unenclosed ⁸ subfloor with carpet	Susp. over unenclosed subfloor without carpet	Susp. over enclosed ⁹ subfloor with carpet	Susp. over enclosed subfloor without carpet
		1991- 2004	2.5	1.0	0	0	0	0	0	0	0	0
		2005-2011	3.0	1.5	1.0	1.0	1.0	0	0.5	1.0	0	0
		2012-2023	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0.5	0.5
		2024-present	3.5	1.5	1.5	1.5	1.5	0.64	2.0	2.0	1.5	1.5
VIC	7	Pre 1991	1.0	0	0	0	0	0	0	0	0	0
		1991- 2004	2.5	1.0	0	0	0	0	0	0	0	0
		2005-2011	3.5	1.5	1.0	1.0	1.0	0	0.5	1.0	0	0
		2012-2023	3.5	2.5	2.5	1.0	1.0	0	1.0	1.5	1.0	1.5
		2024-present	2.5	2.0	2.0	2.0	2.0	0.64	2.0	2.0	2.0	2.0
VIC	8	Pre 1991	1.0	0	0	0	0	0	0	0	0	0
		1991- 2004	2.5	1.0	0	0	0	0	0	0	0	0
		2005-2011	4.0	2.5	1.0	1.0	1.0	0	1.5	2.0	0	0
		2012-2023	4.5	3.5	3.5	3.5	3.5	1.0	1.5	2.0	1.0	1.5
		2024-present	2.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
WA	1	Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2011	2.0	0	0	0	0	0	0	0	0	0
		2011-2025	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0.5	1.0
		2026-onward	3.0	1.5	1.5	1.5	1.5	0	0	0	0	0
WA	3	Pre 2006	1.0	0	0	0	0	0	0	0	0	0

UI input fields			Values applied by software ⁷									
State	NCC climate zone	Year of construction	Roof / Ceiling	External Wall				Floor				
				Framed	Masonry	Masonry w/ furring channel	Concrete w/ furring channel	CSOG	Susp. over unenclosed ⁸ subfloor with carpet	Susp. over unenclosed subfloor without carpet	Susp. over enclosed ⁹ subfloor with carpet	Susp. over enclosed subfloor without carpet
		2006-2011	2.0	0	0	0	0	0	0	0	0	0
		2011-2025	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0
		2026-onward	4.5	1.5	1.5	1.5	1.5	0	1.5	1.5	0	0
WA	4	Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2011	2.5	1.5	0	0	0	0	0	0	0	0
		2011-2025	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0
		2026-onward	2.5	2.0	2.0	2.0	2.0	0	1.5	1.5	1.0	1.0
WA	5	Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2011	2.5	1.0	0	0	0	0	0	0	0	0
		2011-2025	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0
		2026-onward	4.0	1.5	1.5	1.5	1.5	0	2.0	2.0	1.0	1.0
WA	6	Pre 2006	1.0	0	0	0	0	0	0	0	0	0
		2006-2011	3.0	1.5	1.0	1.0	1.0	0	0.5	1.0	0	0
		2011-2025	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0.5	0.5
		2026-onward	3.5	1.5	1.5	1.5	1.5	0.64	2.0	2.0	1.5	1.5
NT	1	Pre 2011	1.0	0	0	0	0	0	0	0	0	0
		2011-onward	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0.5	1.0
NT	3	Pre 2011	0	0	0	0	0	0	0	0	0	0
		2011-onward	3.0	1.5	1.0	1.0	1.0	0	1.0	1.5	0	0

