H1 COMPLIANCE – NZS 4218 CALCULATION METHOD

MAKING PLANS JOB #: 21035

CONSTRUCTION

ROOF	COLORSTEEL LONGRUN ROOFING WITH UNDERLAY ON 90MM TRUSSES @ 900CRS USING R3.6 ECOINSULATION	**R 3.35**
WALLS	90 X 45MM TIMBER STUD FRAMING, AXON PANEL, USING R2.2 ECO INSULATION	**R 2**
FLOOR	CONCRETE RIB RAFT SLAB ON GROUND	**R 1.6**
GLAZING	ALL JOINERY ALUMINIUM FRAME – DOUBLE GLAZED	**R 0.26**
SKYLIGHT	NONE	**R 0.31**

AREA CALCULATIONS

TOTAL ROOF AREA			163.45	M²	
TOTAL FLOOR AREA			163.45	M²	
WALLS	31.1	NORTH	2.92	GLAZING	9.4% > 30%
	70.34	EAST	14.61	GLAZING	20.8%
	35.98	SOUTH	10.25	GLAZING	28.5%
	70.34	WEST	4.8	GLAZING	6.8%
TOTAL WALL AREA			175.18	M²	
TOTAL GLAZING AREA			32.58	M²	
TOTAL SKYLIGHT AREA			0	M²	

	ROOF		WALL		FLOOR		GLAZING		SKYLIGHT		TOTAL
HL	163.45		175.18		163.45		32.58		0		
REFERENCE	2.9	+	1.9	+	1.3	+	0.26	+	0.31	=	399.60
(=)	56.36		92.20		125.73		125.31		0		
HL	163.45		175.18		163.45		32.58		0		
PROPOSED	3.35	+	2	+	1.6	+	0.26	+	0.31	=	363.84
(=)	48.79		87.59		102.16		125.31		0		

RESULT	**363.84**	**<**	**399.60**	**THEREFORE OK**

Construction R-value Calculator

This webpage calculates the R-value of walls, roofs and suspended floors for most insulation material R-values. It uses the "iso-thermal planes" method, the same method as used in NZS4214:2006.

Some of the possible material combinations may not be suitable for actual constructions, i.e. EPS based claddings directly fixed on timber framing. Please make sure to select only appropriate material combinations.

If your construction is not listed, please send an e-mail to designnavigator@gmail.com with a description and a detail drawing (pdf) of it.

Please select the element type. Then choose the construction details and enter the R-value of the insulation either directly in the text box or by choosing a product from the right panel.

- Floors ○
- Walls ◉
- Roofs ○

Date: 21/12/2021

AXON — **2.00** m²°C/W

Type: Wall: Timber Frame with vented Cavity

Timber Frame with vented Cavity [view detail]

external surface 0.03

Cladding : James Hardie Axon Cladding 9mm
R-value: 0.04

Air Barrier : Building paper
R-value: 0.01

Timber Frame & Cavity : 90mm, studs @ 600mm, dwangs @ 800mm

Wall Frame Area: 14.4%	*Cavity Area: 85.6%*
15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08	15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08
Framing : *R-value: 0.75*	Ecoinsulation Wall 2.2 2.2
	still Airgap: none *R-value: 0.00*

Wall Lining : Gypsum plasterboard 10mm
R-value: 0.04

internal surface 0.09

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Current NZS4218:2009 Schedule Method minimum R-value Targets (non-solid contruction) :

	Zone 1	Zone 2	Zone 3
Roof	R-2.9	R-2.9	R-3.3
Wall	R-1.9	R-1.9	R-2.0
Floor	R-1.3	R-1.3	R-1.3
Glazing (vertical)	R-0.26	R-0.26	R-0.26
Glazing (skylights)	R-0.26	R-0.26	R-0.31

Australian Building Code Targets :

	All Zones except NSW	NSW
Roof	R-4.1	R-6.3
Wall	R-2.9	R-3.8

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- Floors ○
- Walls ◉
- Roofs ○

Date: 19/08/2020

BRICK — **2.02** m²°C/W

Type: Wall: Timber Frame with vented Cavity

Timber Frame with vented Cavity [view detail]

external surface 0.03

Cladding : 70mm brick
R-value: 0.06

Air Barrier : Building paper
R-value: 0.01

Timber Frame & Cavity : 90mm, studs @ 600mm, dwangs @ 800mm

Wall Frame Area: 14.4%	*Cavity Area: 85.6%*
15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08	15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08
Framing : *R-value: 0.75*	Ecoinsulation Wall 2.2 2.2
	still Airgap: none *R-value: 0.00*

Wall Lining : Gypsum plasterboard 10mm
R-value: 0.04

internal surface 0.09

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Current NZS4218:2009 Schedule Method minimum R-value Targets (non-solid contruction):

	Zone 1	Zone 2	Zone 3
Roof	R-2.9	R-2.9	R-3.3
Wall	R-1.9	R-1.9	R-2.0
Floor	R-1.3	R-1.3	R-1.3
Glazing (vertical)	R-0.26	R-0.26	R-0.26
Glazing (skylights)	R-0.26	R-0.26	R-0.31

Australian Building Code Targets:

	All Zones except NSW	NSW
Roof	R-4.1	R-6.3
Wall	R-2.9	R-3.8

Construction R-value Calculator

This webpage calculates the R-value of walls, roofs and suspended floors for most insulation material R-values. It uses the "iso-thermal planes" method, the same method as used in NZS4214:2006.

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- Floors ○
- Walls ○
- Roofs ◉

Date: 03/11/2021

ROOF — 3.35 m²°C/W

Type: Roof: Timber framed truss Roof, direct fixed or battened flat Ceiling

Timber framed Roof, direct fixed or battened flat Ceiling [view detail]

external surface 0.03

Roofing : Corrugate iron with building paper
R-value: 0.01

Insulation :

Timber Frame & Cavity : 90mm rafters or joists @ 900mm, battens covered with insulation

Roof Frame Area: 5.0%	*Cavity Area: 95.0%*
Roof space (still air) 0.11	Roof space (still air) 0.11
Framing : *R-value: 0.75*	Ecoinsulation Ceiling 3.6 : 3.6

Roof Lining : Gypsum plasterboard 10mm
R-value: 0.04

internal surface 0.09

Non-IC-rated recessed downlights

Ceiling Area [m²]: Number of downlights: Clearance from lamp holder side [m]:

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	Zone 1	Zone 2	Zone 3
Roof	R-2.9	R-2.9	R-3.3
Wall	R-1.9	R-1.9	R-2.0
Floor	R-1.3	R-1.3	R-1.3
Glazing (vertical)	R-0.26	R-0.26	R-0.26
Glazing (skylights)	R-0.26	R-0.26	R-0.31

Australian Building Code Targets :

	All Zones except NSW	NSW
Roof	R-4.1	R-6.3
Wall	R-2.9	R-3.8