



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.

BXG notes that the actual framing is 64 mm not 90 mm however this is very close to the same r value with correct framing ratio

mail to designnavigator@gmail.com with a description and a detail drawing

construction details and enter the R-value of the insulation either directly in panel [i](#).

Overall the 64mm stud with bracket creating 90mm wall cavity- 10mm thermal break on brackets 25mm XPS thermal break behind studs

Date: 02/12/2020

150mm concrete wall 2.13 m²C/W

Type: Wall: Steel Frame (direct fixed Cladding) with Strapping and Lining ▼

Steel Frame (direct fixed Cladding) with Strapping and Lining view detail

external surface 0.03

Cladding : 150mm concrete precast slab ▼
R-value: 0.09

Air Barrier : none ▼
R-value: 0.00

Steel Frame & Cavity : 90x35x0.75mm, studs @ 400mm, no dwangs ▼
Wall Frame Area: 11.7% Cavity Area: 88.3%

Thermal Break : XPS 20mm ▼ <i>R-value: 0.70</i>	Insulation : 2 still Airgap: none ▼ <i>R-value: 0.00</i>
Framing : <i>R-value: 0.14</i>	

strapping and air gap 0.16

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 construction) [i](#):

	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 [i](#):

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

